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ORIGINAL ARTICLES.

NOTES ON EXAMINATION OF THE URINE.

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IN the New Orleans *Medical and Surgical Journal* for June, 1890, I published a first series of notes on examination of the urine. At that time, however, I was able to report only a very incomplete analysis of specimens sent to the laboratory between November 7, 1889, and January 1, 1890, because a satisfactory system of sending with the specimens a record of the most important clinical facts had only been put into practice between those dates. Since that time the system has been much improved, thanks to the co-operation of my confrères of the visiting staff, and I am now able to present a complete analysis of all the specimens examined. The clinical statements as to age and the day of the disease on which the examination was made are, of necessity, somewhat inexact, but not enough so to cause any considerable error in our conclusions, I believe, especially when large numbers of cases are considered. Indeed, the present number of cases, which includes those given in the first report, is so large that I offer these materials for thought, with some confidence in their usefulness. I have not refrained from making such comments as the figures suggest, but I would emphasize that these reflections have occurred when the notes were taken, at the laboratory-table.

A uniform method has been followed in examining all specimens. The urine is sent to the laboratory by 9 A.M., in screw-top preserving-jars, especially kept in the wards for this purpose. To the jars are tied manilla tags, bearing a brief synopsis of the clinical history. Immediately on receipt of the urine in the laboratory the reaction and specific gravity are taken, and the fluid is poured into a conical glass to settle for an hour or an hour-and-a-half before slides are made for microscopic examination. In the meantime qualitative tests are invariably made for albumin, for sugar, and for other substances, the presence of which in one way or another we are led to suspect.

The "ring-test" is always used in the examination for albumin, as I am convinced that when properly made it is the surest and most delicate. Albumin makes its appearance in the urine under many forms, and is often accompanied by other substances that either disguise or prevent its usual reactions. In acid urines, if we employ heat alone, we find many specimens in which we fail to obtain coagulation, and the test by boiling the upper portion of a long column of the fluid in a test-tube will lead us into error. The addition, too, of a mineral acid to these acid specimens is a delicate matter; frequently, if more than a trace of nitric acid be added, we fail by producing too high a degree of artificial acidity to obtain the reaction; while other specimens require to produce precipitation the addition of an amount of nitric acid that is surprising, and that would never be persevered in by an inexperienced person. Some acid specimens give a precipitate on the addition of nitric acid in the cold, while others will not, and the amount of albumin present has nothing to do with the result.

I have observed that if a color-reaction (usually reddish or purplish) be produced on the first addition of nitric acid, as a rule precipitation of the albumin is not obtained until continued addition of the acid restores an orange or yellow hue to the fluid. I am not speaking now, of course, of well-understood cases in which positive "greenness" on the part of the experimenter offers an easy explanation of the difficulties, but of instances in which even an experienced clinician is annoyed. Most of these difficulties are caused by the fact that a small amount of albumin can form with a small amount of acid or alkali a soluble acid or alkaline albumin, which is only to be broken up and precipitated by the addition of an excess of nitric acid. There is no doubt, however, that organic chemistry may still find here some profitable employment.

In making the "ring-test," if half an inch of acid be poured into the tube, and two or three times the amount of urine be carefully run down upon it, an exceedingly delicate ring of albumin can be perceived if the tube is held against a dark background with the light falling obliquely through it. When, however, but very little albumin is present, it may be some minutes before the cloudy ring becomes distinct. I believe the importance of this time-element has not been sufficiently insisted upon; indeed, none of these matters is discussed

and dwelt upon in our textbooks with adequate force and clearness.[1]

A case that illustrates the importance of allowing time in making the ring-test has come under my observation while writing this paper. A specimen of urine of acid reaction and specific gravity 1013 was examined for albumin by the ring-test, boiling, and the picric-acid test. The latter tests were extremely doubtful, and I saw no ring on making the first. On microscopic examination I found a few hyaline casts, when I looked once more at my ring-test, and then, one-hour-and-a-half after having prepared it, found a distinct ring. On repeating the test and observing it constantly, I found that *four minutes* elapsed before I could be at all certain of the presence of the albuminous ring. Making the urine alkaline and then testing, nine minutes passed before I could be certain of the ring. The object of making the urine alkaline was to ascertain if a source of error that I mentioned in my first paper (1890) had perchance been present. As I pointed out at that time, the ring-test sometimes fails when the specimen to be tested is very acid, for then, apparently, the acidity at the junction of the urine and nitric acid may be sufficient to hold in solution a small amount of albumin; or, in other words, there may not exist anywhere between urine and acid exactly the degree of acidity requisite to the coagulation of the albumin; the degree is everywhere too high. If the urine be rendered alkaline and the precipitated mucus filtered off, this source of error is removed. Should the amount of mucus be moderate filtration is unnecessary; in a moment or two the cloud of mucus lifts; its lower border is marked by a sharp, fine, white line; below is a little clear zone of urine, and at its lower border, just above the junction of urine and acid, is seen the faint nebulous albuminous ring. Of this point also I have seen no mention in our text-books. These two precautions—time and the degree of acidity—being borne in mind, the ring-test merits every confidence; but when the trace of albumin is minute confirmation is (in the Hospital Laboratory) invariably sought by boiling, followed by the addition of a proper quantity of acid.

If albumin is found, 5 c.cm. of the urine are boiled until all the albumin is coagulated and then allowed to stand in a cylindrical graduate and settle for an hour or an hour-and-a-half, when the amount of *moist* albumin is read off and the percentage calculated. All the percentages given in the tables have been estimated in this way, a rapid method that answers every practical purpose and is as valuable for comparison as any other.

Omitting the 111 cases of 1889 the total number of specimens of urine examined was 2685. The number of re-examinations was 355. The number, omitting re-examinations, was 2330.

White Men. Of the 2330, there were specimens from 1288 white men. Of these 1288 specimens, 592, or 45+ per cent., contained albumin. Of the specimens (592) containing albumin, in 169 it was accounted for by contained pus or blood. There were then 592 containing albumin and 169 containing pus or blood; making 423 specimens from cases of presumably pure renal albuminuria, viz., 32+ per cent. of 1288 and 71+ per cent. of 592.

White Women. Of the 2330, there were specimens from 463 white women. Of these 463 specimens, 218, or 47+ per cent., contained albumin. Of the specimens (218) containing albumin, in 97 it was accounted for by contained pus or blood. There were then 218 containing albumin and 97 containing blood or pus; making 121 specimens from cases of presumably pure renal albuminuria, viz., 26+ per cent. of 463 and 55+ per cent. of 218.

Negro Men. Of the 2330, there were specimens from 470 negro men. Of these 470 specimens, 303, or 64+ per cent., contained albumin. Of the specimens (303) containing albumin, in 68 it was accounted for by contained pus or blood. There were then 303 containing albumin and 68 containing pus or blood; making 235 specimens from cases of presumably pure renal albuminuria, viz., 50 per cent. of 470 and 77+ per cent. of 303.

Negro Women. Of the 2330, there were specimens from 109 negro women. Of these 109 specimens, 68, or 62+ per cent., contained albumin. Of the specimens (68) containing albumin, in 28 it was accounted for by contained pus or blood. There were then 68 containing albumin and 28 containing pus or blood; making 40 specimens from cases of presumably pure renal albuminuria, viz., 36+ per cent. of 109 and 58+ per cent. of 68.

We note that the percentage of renal albuminuria is higher among the negro men (77 per cent.) than among the white men (71 per cent.) and among the negro women (58 per cent.) than among the white women (55 per cent.); and that the percentage of cystitis (pus and blood) is higher among the white women (45 per cent.) than among the

[1] Since writing the foregoing, Professor Long's Laboratory Manual of Elementary Chemical Physiology and Urine Analysis, Chicago, E. H. Colegrove & Co., 1894, has appeared, in which all of these are stated with admirable brevity and point. Professor Long notes (p. 191) the importance of the time-element in making the nitric-acid contact-test, but he falls into error when he advises "to set the tube aside for twelve hours, and then observe it." If the amount of albumin is small and the ring delicate, it will, even after the lapse of an hour or two, have disappeared by diffusion or resolution. The suggestion of Professor Long that nitric acid be well warmed before the urine is run down upon it is an excellent one, as by this means we are exempted from chance of error by the precipitation of urates; this error, however, is readily obviated by a little experience and accurate observation; but I cannot agree with Professor Long when he says (p. 193) that the formation of a ring of crystalline urea nitrate "is a very unusual reaction." In my experience it has proved rather common.

white men (29 per cent.) and among the negro women (42 per cent.) than among the negro men (23 per cent.).

TABLE NO. 1.

Ages of 859 cases of renal albuminuria:

		Per cent.
From 5 to 10 years,	5 cases	½+
10 " 15 "	84 "	9+
25 " 30 "	77 "	8+
30 " 40 "	146 "	17+
40 " 50 "	173 "	20+
50 " 60 "	162 "	18+
Over 60 "	158 "	18+
Age not reported in	54 "	6+
Total . .	859	

TABLE NO. 2.

Number of times and percentage of occurrence of renal albuminuria at different ages in 1686 suspected cases:

Total No. of cases.	Cases of renal albuminuria.		Percentage.
12.	From 5 to 10 years,	4=	33+
228.	" 10 " 15 "	62=	27+
225.	" 25 " 30 "	61=	27+
291.	" 30 " 40 "	94=	32+
343.	" 40 " 50 "	135=	39+
303.	" 50 " 60 "	122=	40+
257.	Over 60, "	30=	50+
27.	Age not reported,	12=	44+
1686			

Neither race nor sex seems to influence the age at which renal albuminuria most commonly occurs. The percentage rises abruptly at thirty years of age, and in men and women, whites and blacks, the majority of the cases occur during the thirty years from thirty to sixty. Table No. 1, therefore, is made to include the whole 819 cases of 1891–92, together with the forty cases of 1889. For similar reasons Table No. 3 is made to show the amount of albumin, the reaction, and the specific gravity in the whole number (859) of cases.

TABLE NO. 3.

Reaction and specific gravity of 859 cases of renal albuminuria:

Amount of albumin (moist).	Number of specimens.	Reaction.			Specific gravity.		
		Neut.	Acid.	Alk.	Max.	Min.	Average.
Trace . .	364	11	331	22	1031	1000	1013+
1– 5 p. ct. .	132	2	124	6	1029	1001	1011+
6–25 p. ct. .	244	4	230	10	1032	1002	1013+
26–50 p. ct. .	67	1	59	7	1030	1004	1014+
50 p. ct. or over . .	52	2	48	2	1034	1006	1015+
	859	20	792	47			

TABLE NO. 4.

Association of casts with various amounts of albumin in 859 specimens from cases of renal albuminuria:

	Percentages.					
Variety of casts.	Trace.	1 to 5.	6 to 25.	26 to 50.	50 and over.	
Epithelial .	5	1	7	1	1	15
Granular .	37	37	78	22	20	194
Hyaline .	126	55	104	31	29	345
Waxy . .	0	2	1	1	2	6
Total . .	168	95	190	55	52	560
No casts .	196	37	54	12	0	299
Grand total	364	132	244	67	52	859
Percentage of occurrence of casts .	46+	71+	77+	82+	100	65+

The average specific gravities corresponding to various amounts of albumin are interesting. With only a trace of albumin in the urine, the kidneys, it may be supposed, being but slightly affected, the specific gravity is about normal; when the amount of albumin increases to from 1 to 25 per cent., the kidneys being, presumably, more profoundly damaged, the specific gravity falls a little; but when the amount of albumin rises to from 25 per cent. to 50 per cent. or over, it, by its very presence, causes a decided rise in the specific gravity. In the fifty-two cases in which the albumin amounted to 50 per cent. or over the specific gravity was never less than 1006. A consideration of Table No. 3, however, and the fact that in 401 specimens of normal urine the specific gravity varied from 1001 to 1028, show conclusively how futile it is to hope for any indication of the presence or absence of albumin from the specific gravity of a specimen of urine.

In Table No. 4 an attempt is made to show the relation between the amount of albumin and the kind of casts found, the number of times per centum that casts were present with each amount of albumin being given. It must be carefully noted, however, that whenever granular and epithelial casts were found together, the kind is set down in the table as granular, and that when hyaline casts were found associated with other casts the kind is always set down as hyaline.

If we take it to be a general rule, and to this all experience inclines us, that disease of the kidney is to be feared only when (after repeated examinations) we find albumin associated with casts in the urine, then Table No. 4 furnishes two valuable indications. First, if not employing the microscope, we make a chemic examination, and a qualitative one only, and determine the presence of albumin, though it be but a trace, the chances are about equal; second, if unsatisfied, we proceed to determine the percentage of moist albumin, and find it to be about 1 per cent., the chances are in favor of renal disease; if between 1 and 50 per cent., the chances are more than 2 to 1; while when the percentage reaches or exceeds 50 per cent., we may feel almost certain that grave renal disease exists. Obvious causes,

like the presence of pus or blood, are of course not taken into consideration.

TABLE 5.

Duration of the disease at the time of the examination, with the amount of albumin and the kind of associated casts in 819 cases of renal albuminuria.

Duration of disease.	Albumin.						Casts.					Percentages.
	Trace.	1 to 5 per cent.	6 to 25 per cent.	26 to 50 per cent.	Over 50 per cent.	Totals.	Epithelial.	Granular.	Hyaline.	Waxy.	Totals.	
Less than 1 mo.	64	12	34	10	11	131	2	25	61	0	88	67+
From 1 to 6 "	150	55	101	31	28	365	7	89	147	4	247	67+
6 mo. to 1 yr.	46	9	24	10	4	93	0	22	42	0	64	68+
1 to 2 years,	21	7	19	1	5	53	1	12	23	1	37	69+
2 to 3 "	17	3	10	1	0	31	1	5	9	1	16	51+
3 to 4 "	12	2	10	2	0	26	1	10	8	0	19	73+
4 to 5 "	4	3	0	1	0	8	0	2	4	0	6	75+
Over 5 "	4	4	2	0	0	10	0	3	4	0	7	70+
Not reported,	39	21	30	8	4	102	0	17	38	0	55	
	357	116	230	64	52	819	12	185	336	6	539	65+

In Table No. 5, it should be called to mind, the duration of the disease given rests solely upon the statements of the patients themselves and is therefore, of course, not absolutely reliable, especially in the case of hospital-patients like these. Nevertheless the number of cases considered is so large that I do not believe serious error has crept in, though the fall to 51 per cent. of casts associated with albumin in cases having a duration of between two and three years is unaccountable and suspicious. Only 819 cases are embraced in this table, as this information could not be had about the 40 cases of 1889.

Turning to the very interesting question of the symptoms associated with renal albuminuria (Table No. 6), I must confess that I do not think these were reported as the result of any careful study of the cases, and in so far they are untrustworthy, doubtless; but they have an interest as the most striking symptoms noted in what was probably an early, incomplete, and hurried examination of a large number of cases by a large number of practitioners of varying ability; *i. e.*, the average "first visit" of the average "busy practitioner."

TABLE NO. 6.

Résumé of symptoms reported at least fifty times, together with percentage of association of the symptom with casts:

Symptoms.	Total cases.	Percentage.
Edema of extremities	423	67+
Anasarca	227	73+
Dyspnea	212	72+
Edema of face	167	64+
Headache	141	61+
Dizziness and dimness of vision	79	63+
Heart-lesion	77	66+
Scanty urine	66	66+
Frequent urination	52	44+
Anemia	57	68+

Regarding only those symptoms, mentioned at least fifty times, it was found that anasarca, dyspnea, and anemia were most frequently associated with the presence of casts, while frequent micturition was far less often so associated. If then this table is fairly trustworthy, the limitations already noted being kept in mind, the presence of anemia, dyspnea, and anasarca should at once suggest the likelihood of true renal disease, while frequent urination should rather direct our attention to the genito-urinary apparatus. Of course, there is nothing surprising in this, but it is interesting to see it supported by actual figures and percentages.

Casts were found in 40 specimens (out of 2441 first examinations of 1889, 1890, 1891, and 1892) that contained no serum-albumin.

Thirty (30) of the 40 specimens were from white men; one (1) was from a white girl; seven (7) were from negro men; two (2) were from negro women.

The ages ranged from 8 to 80 years; the duration of the disease varied from three days to three years; the specific gravity from 1002 to 1035; the reaction was acid in 19, alkaline in 2, and unrecorded in 19; the casts were hyaline in 14 instances, granular in 4, epithelial in 1, and unrecorded in 21. The symptoms recorded were edema, headache, scanty urine, bronchitis, anemia, backache, frequent micturition, dimness of vision and dizziness, dyspnea, anasarca, emaciation, heart-lesion, pregnancy, diphtheria, and uremic convulsions. It is highly probable, of course, that albumin was escaping in some one of its many forms other than serum-albumin, but as the latter is the form almost invariably tested for by practitioners the occurrence in these cases of "casts without albumin," to the number of 1 to every 61 specimens examined is of interest and importance.

Sugar. Sugar was found in only 12 of the 2330 specimens, and was associated with albumin (from a trace to 5 per cent. moist) in only four. The reaction was acid in every instance and the specific gravity varied from 1022 to 1048. The ages of the patients ranged from 7 to 49 years; 10 were males and 2 females, while 10 were whites and 2 blacks.

TABLE 7.

Other abnormal or unusual constituents found in specimens free from albumin, casts, or sugar, in a grand total of 2441 first examinations of the urine.

The 2441 specimens were from

Men	1835	Whites	1831
Women	606	Blacks	610
	2441		2441

	Age.			Sex.		Race.			
	5 to 20.	21 and over.	Not reported.	Males.	Females.	White.	Black.	Not reported.	Total.
Spermatozoa	1	27	4	31	1	28	4	0	32
Red blood-corpuscles	3	82	31	86	30	86	30	0	116
Urates	6	55	7	53	15	46	19	3	68
Uric acid	7	64	10	58	23	63	18	0	81
Calcium oxalate	5	111	5	93	28	96	25	0	121
Phosphates (triple)	7	43	10	38	22	43	17	0	60

Table No. 7 includes the 111 first examinations of 1889, as well as the 2330 of 1890-91-92, a total therefore of 2441.

Columns cannot be added, as these constituents were often found associated in the same specimen.

Concerning the urinary sediments, I have but a single note to make. The so-called dumb-bell crystals of calcium oxalate do not, I am convinced, exist. These forms are, in reality, all biconcave discs, of greater or less regularity and exactness of shape, and are connected by transition-forms of infinite variety with the classic octahedra. The various forms are depicted with great exactness on page 329 of Professor Long's recent work, save that in the supposed typical dumb-bells the fine contours defining a biconcave disc, as in the red blood-corpuscle seen in profile, can, I believe, be always made out by suitable illumination and exact observation. It is proper to note here that crystals of triple phosphate may often be found on making the microscopic examination in a urine having a (general) acid reaction for the following reason: The sediment that settles at the bottom of a conical glass, after the urine has been standing for an hour or so, is that portion always collected for microscopic examination. Now, while the upper portions of the urine still show a decidedly acid reaction, the extreme lower portion, the few drops at the conical bottom of the collecting vessel in which all the sediment is contained, may have become alkaline and be fairly loaded with crystals of triple phosphates. Some emphasis is to be laid upon this point, as the clinician is likely to look askance upon a report giving the reaction of the urine as acid, and yet mentioning crystals of triple phosphate as constituents of the microscopic sediment.

TABLE 8.

Symptoms (reported at least twenty times) occurring with unusual or abnormal constituents in specimens of urine free from albumin, casts, and sugar.

	Spermatozoa.	Red blood-corpuscles.	Urates.	Uric acid.	Calcium oxalate.	Triple phosphates.	Totals.
Anemia	2	6	4	5	8	2	27
Anasarca	1	8	11	4	10	3	37
Backache	3	8	5	11	14	3	44
Dizziness and dimness of vision	3	7	8	5	12	4	39
Dyspnea	2	11	9	4	19	9	54
Headache	7	15	13	14	33	11	93
Heart-lesions	0	3	5	5	6	2	21
Edema of face	3	10	6	3	9	4	35
Edema of extremities	13	39	18	23	58	23	174

Finally, as I have noted under Table No. 8, I found the average specific gravity of 401 specimens, in which the reaction was normal and nothing unusual or even noteworthy to be found, to be 1012+; *i.e.*, between 1012 and 1013. Müller (1840) gives the mean specific gravity as from 1015 to 1020; Draper (1858) as 1020; Carpenter (1864) cites Prout as giving 1020; Simon 1012; Roberts from 1001 to 1036; Kirke (1873) gives 1020; Herman (1878) from 1005 to 1030; Foster (1880) 1020; Landois and Stirling (1886) from 1015 to 1025; Yeo (1888) from 1015 to 1020. The morning urine is said by all to be the heaviest, but this was the urine furnished me in every instance. The lowest specific gravity found among the 401 specimens was 1001 and the highest 1828.

Normal Specific Gravity. The average specific gravity of 401 normal specimens was 1012+. The lowest was 1001; the highest 1028.

TREATMENT OF LEUKOMAIN-POISONING.

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IN previous papers[1] I have shown that paraxanthin and other leukomains of the uric-acid group are etiologically related to true migraine and kindred diseases, such as migrainous epilepsy and migrainous gastric neurosis. For the etiology and symptomatology of these diseases the reader is referred to these papers, as it is my purpose in this communication to speak only of the treatment of these conditions.

The outline of treatment that I shall present is one in which I have learned to have much confidence and one that I am anxious to submit to the judgment of medical men everywhere, in order that I may the more quickly determine its value and its limitations.

The medicinal treatment is the important and indispensable part of the treatment and consists of two prescriptions, which are used simultaneously:

Take—Potassium permanganate . 20 grains.
Make 20 pills and coat with salol.[2]
One of these is to be taken three times a day one hour after meals.

Take—Sodium salicylate . . 2 drams.
Dry sodium phosphate . 4 "
Dry sodium sulphate . 10 " —Mix.
A teaspoonful, more or less, is to be taken in a glass of seltzer-water each morning.

The foregoing prescriptions can be given continuously for months at a time. In one case in which the treatment was eminently satisfactory I continued this treatment without a single day of interruption for four months. I am not sure that it is necessary to have the pills of potassium perman-

[1] THE MEDICAL NEWS, Phila., May 26 and October 3, 1894, and Transactions of the Association of American Physicians, vol. x, 1895.

[2] Mr. Bange, a pharmacist, uses the following formula for coating the pills with salol: Salol, 4 parts; shellac, 1 part; alcohol, 40 parts.

ganate coated with salol, as I believe I have gotten the same good results with the uncoated pills. I have used the salol-coated pills on the theory that this coating would enable the potassium permanganate to pass through the stomach and be dissolved in the small intestine, and in this way act as an intestinal antiseptic. But the special purpose for which it is given is to neutralize poisonous leukomains circulating in the blood. (See previous papers.)

In the second prescription it is important to have pure salts of sodium. These salts will not be so unpalatable if taken in cold seltzer-water. The seltzer-water can be obtained in siphon and used as directed. It is not an important part of the treatment, and is used for the most part to make the "salts" more palatable. Water may therefore be substituted for the seltzer-water without, in any way, detracting from the efficacy of the treatment. In this prescription the quantities of the three sodium-salts may be changed to suit individual cases, the formula as given being the one that I almost invariably use, and I have rather preferred to vary the dose to suit individual cases than to rewrite the prescription with the quantities of the ingredients changed.

When there is considerable constipation it is necessary to give a heaping teaspoonful of the salts to produce the cathartic action which is necessary in the treatment of these cases. If a small dose of salts produces excessive catharsis, the dose may be diminished or the prescription rewritten with less of sodium sulphate and more of the phosphate. But I have often noted that the gouty diarrhea, which many of these patients have, is cured rather than exaggerated by these salts. The "salts" should be given every morning for a considerable period of time.

The relief that follows the treatment outlined is immediate. It is a common experience for patients not to have a single so-called "nerve-storm" after being put upon it. It will often accomplish remarkable results without the aid of any dietetic or hygienic treatment.

The dietetic treatment is very important and should always be adopted as an aid to the medicinal treatment. The diet to be observed is as follows: Fresh meat once a day, with fish, eggs, milk, fruit, and vegetables. I ordinarily direct the patient as to what he should not have, telling him to avoid beer, wine, meat-soup, and meat, except one piece of fresh meat at dinner. Apart from this he may have anything he wishes within the limits of his digestive capacity. Not infrequently the medicinal treatment already outlined very much widens the range of the digestive capacity of the patient, so that he can eat freely of many fruits and vegetables which previously he had learned to fear.

The hygienic treatment is also important in many cases and consists simply of a warm alkaline bath each morning and plenty of exercise in the open air. I usually direct the patient to take a warm alkaline bath as soon as he arises in the morning, and the bath should, when convenient, be followed by an alcohol rub. A handful of sodium bicarbonate and one of sodium chlorid thrown into an ordinary bath-tub of hot water will make the water sufficiently alkaline. The alkaline bath has not appeared to me to be necessary in the treatment of migrainous conditions, and it is not my routine to prescribe it under these conditions; but I have found it a very useful, if not a necessary, adjunct to the other treatment in certain so-called gouty conditions of the muscles and joints. A discussion of the manner in which the alkaline bath produces good results is not within the scope of this paper.

Exercise in the open air is always a valuable aid in the treatment, but it is by no means always practicable, and it is, therefore, well to know that excellent results may, as a rule, be obtained without it. Many cases are, in the beginning of the treatment, physically unable to take open-air exercise, and many of them are confined to hospitals and other institutions where this phase of the treatment cannot be very satisfactorily carried out.

In the foregoing outline I have not attempted to write a complete chapter on the treatment of leukomain-poisoning, but only to call attention to a line of treatment that I believe to have some specific influence in the treatment of this condition. This treatment can be combined or alternated with any other, as the individual case may demand. The conditions that I believe can be benefited or cured by this treatment are as follows:

1. *True migraine*,[1] which I believe to be a form of leukomain-poisoning, can almost certainly be relieved by this treatment. In these cases the treatment should be kept up uninterruptedly for from four to six weeks, and then every other week for from four to six weeks longer, and after this for one week in every month for a few months, when diet and exercise may be depended upon to complete the cure. I have now under treatment ten cases of migraine, all of which have been completely relieved of their paroxysmal attacks, as the following illustrative cases will show:

CASE I.—Mrs. G., aged thirty-five years, the mother of two children and the wife of a laboring-man, is a hard-working German woman, who has suffered from sick-headache ever since she can remember. During the past few years she has had an attack almost every week. These attacks would send her to bed, and keep her there from twelve to thirty-six hours. On her sick-headache days her husband would have to cook and do the housework.

[1] Loc. cit.

On May 10th this woman was placed under treatment, and this has been continued, as already described, to the present time (July 25th). This case had only the medicinal treatment, no dietetic or hygienic treatment being attempted. Since this treatment was begun she has not lost a day from work, has not had a paroxysm of sick-headache, and has never been so well since she can remember.

CASE II.—Mrs. E., a German woman, thirty-three years of age, is a meat-eater and beer-drinker. Her mother and one of her sisters have migraine, and she is and has been for many years a great sufferer from the same disorder, having an attack about every two weeks.[1] She was placed under treatment on April 20th, and the treatment has been continued till the present time (July 25th) without a single paroxysm of sick-headache, and during this period she has been for the first time in many years perfectly well.

CASE III.—Mrs. M., aged thirty-five years, has had an attack of migraine about every two weeks for many years. During the past few years these attacks have been so severe that life had become scarcely worth the living. The attacks always come on at the menstrual period, and as a rule once in the intermenstrual period.[2] She has been under treatment from April 4th to July 25th, and during this time she has been free from headache and quite well.

2. *Migrainous epilepsy*, which I have demonstrated to be a form of leukomain-poisoning, can always be benefited and often cured by the treatment already detailed. This disorder, which I have fully described in my previous papers,[3] is a form of epilepsy that occurs as a sequel to migrainous headaches of former years, or the epileptoid attacks may at times take the place of or alternate with the migrainous headaches. It is my belief that many of the cases of so-called hystero-epilepsy belong to this class, and can therefore be either benefited or cured by the treatment. In migrainous epilepsy the treatment should be continued somewhat longer than in true migraine, and the potassium-permanganate prescription is, I believe, of prime importance in the treatment of these cases. My experience with this type of cases, however, has not been sufficient for me to judge of the value or limitations of the treatment. I have a number of such patients under my care at the present time with every promise of success from the treatment, but they have been under observation for too short a time to justify any conclusions as to permanent benefit to be derived from the treatment. The following case will illustrate:

CASE IV.—Miss F., thirty years of age, has a neurotic family history. She is a fairly well-nourished girl, with no evidence of mental impairment. She has had sick-headache since she was a child, and during the past six or seven years she has occasionally had epileptoid attacks instead of the migrainous headaches. These epileptoid attacks have been growing more frequent of late, so that at the present time she never fails to have one at her menstrual period, and not uncommonly one in the intermenstrual interval. The migrainous headaches have also continued, and rarely does the woman pass a week without remaining in bed one day on account of an attack. Formerly the attacks of sick-headache always came at the menstrual as well as during the intermenstrual periods, but now the menstrual headache replaces the menstrual epilepsy. The attacks of epilepsy are usually followed by some headache, but not by the nausea and vomiting that accompany the attacks of true migraine. The urine of this patient passed during and immediately after an attack of migrainous epilepsy and migrainous headache contained paraxanthin and xanthin in great excess.

The treatment was the same as has been outlined, and commenced on May 23d. The woman has passed two menstrual periods without a symptom of epilepsy, and with the exception of one slight attack of headache she has been quite well to the present time.

3. *Leukomain gastric neurosis* is a well-known form of migrainous disease that I have described in a previous paper, in which I gave the evidence upon which I based the conclusion that this was one of the manifestations of leukomain-poisoning.[1]

CASE V.—Mrs. P., aged thirty-four years, is the mother of three children. She had "always been a sufferer from sick-headache" up to November, 1894. At that time frightful gastric attacks took the place of the migrainous headaches. These gastric attacks were very sudden in their onset, and were attended with great pain and with vomiting of mucus. They continued with increasing fury till relieved by hypodermic injections of morphin. They recurred about every two weeks till, during March and April, they were so frequent and so severe that the patient was in bed more than half the time.

On April 15th this patient was placed on the treatment that has been outlined in this paper, and it has been continued up to the present time (three-and-a-half months). During this period the patient has not had the slightest symptom of leukomain-poisoning.

The result in this case was truly remarkable, and never have I seen the treatment of any disease followed by more specific results. For this reason I wish especially to ask for a trial of this treatment in cases of leukomain gastric neurosis.

[1] For a full history of this case, see THE MEDICAL NEWS, November 3, 1894, under the heading "Specimen No. 7."

[2] For a full history of the etiology and symptomatology of these attacks, see Transactions of the Association of American Physicians, vol. x, 1895.

[3] Loc. cit.

[1] For a full description of the etiology, symptomatology, and course of this phase of leukomain-poisoning, the reader is referred to my article in the Transactions of the Association of American Physicians, vol. x, 1895, where the case of "Mrs. P." is given with careful detail.

4. *Hypochondriasis and neurasthenia* in patients having a gouty inheritance are often entirely relieved by the treatment already given.

CASE VI.—Mr. R., a middle-aged man, who had always been a good liver, came to my office last May to get relief from more or less constant pain in the abdomen. He was mentally depressed and so despondent about his condition that he could not be convinced but that he had some incurable abdominal disease. He was moody, irritable, and peevish, and did not think that medicines would do him any good. Knowing that there was a strong gouty tendency in this man's family I prescribed the treatment outlined, and he so promptly recovered that in three weeks he was entirely well.

5. Constant headache, sciatica, and intercostal and other neuralgias when occurring in the gouty can very commonly be relieved by the treatment described.

CASE VII.—Mr. S., aged fifty years, has been a great sufferer from myalgia and neuralgia for years. About five years ago he had an attack of acute gout, and since then he has had several very severe and prolonged attacks of "muscular rheumatism." When he sent for me he had been suffering from an attack of sciatica and intercostal neuralgia for about two months, which had persisted in spite of good medical attention. This man entirely recovered after one month of treatment. The dietetic and hygienic treatment was as carefully looked after in this case as the medicinal.

CASE VIII.[1]—Mrs. Y., aged thirty-seven years, has for years suffered from severe headache accompanied by nausea and sometimes vomiting. During the past nine years these attacks have occurred every two or three weeks, and have very often been so severe that the phenacetin and codein that she is accustomed to take gave her little relief.

On June 15th she was suffering from a headache that had continued almost uninterruptedly for three weeks; she had no nausea and no vomiting in this attack. Codein and phenacetin, of which she had taken a great deal, gave her only temporary relief. At this time Dr. Jones mentioned the case to me, and I advised the medicinal treatment described in this paper. This was done, and two days later the headache had ceased and the patient's general condition was very much better. The treatment was continued for a short while, and up to the present time (July 29th) the woman has remained quite well.

In this communication I have not attempted to give a clinical picture of every phase of leukomain-poisoning in which the treatment here detailed may prove beneficial, but have only sought to indicate the class of morbid conditions in which benefit may be expected from it.

Of the value of this treatment in articular gout I am not prepared to speak, although I have published evidence that the leukomains play a part in this disease. It is also my belief, founded upon the evidence given in previous papers, that many so-called uremic manifestations, including eclampsia, are in great part due to paraxanthin-poisoning, and for this reason I think that potassium permanganate given hypodermically might be of value in the treatment of puerperal and other eclampsias of uremic origin. I shall be under obligations for clinical reports on this treatment.

323 BROADWAY.

[1] I am indebted to Dr. Robert J. Jones, Interne at the Cincinnati Hospital, for the notes of this case.

WHAT SHALL WE DO WITH THE OLD WELL?

BY HARVEY B. BASHORE, M.D.,
OF WEST FAIRVIEW, PA.

JUST about one-third of the population of the Eastern States, and a great part of the population of the whole country, depend upon shallow wells for their supply of drinking-water. That these old wells will transmit disease is no longer to be doubted, and the fact is established by practical experience. Cesspools and privies have almost everywhere grossly contaminated the soil, and, as a well drains a cone-shaped area, the diameter of whose base on the surface is anything from one-hundred to two-hundred times the depth of the well, it is almost invariably placed within the drainage of one of these filth-bearing spots. When conditions are such as these, is it any wonder that well-water transmits disease? Rather a wonder is it that the result is no worse. For instance, a passing stranger or a visitor, ill with diarrhea, stops in a town. The discharges, loaded perhaps with typhoid-germs, are thrown into a privy-vault, or, what is worse, are buried a foot or so beneath the surface of the adjoining garden. In the fulness of time these germs have passed into a neighboring well, and numbers of the community suddenly become sick. Or it may be that milk-cans washed with this water carry the fatal germs to a neighboring hotel. It is the old, old story, and Providence gets the credit in place of human negligence.

I just happen to think of one small town in Pennsylvania where sixty out of eighty inhabitants became ill of typhoid, and eight died—all because they had drunk infected well-water. A strange thing, too, frequently noted is that the most popular well in a district is likely to be the one most contaminated. This is probably due to the fact that the constant pumping consequent upon its popularity keeps the water at so low a level that the drainage of the well is increased; for the ground-water tends to maintain a certain level, and a diminution at any one point increases the drainage about that point.

Although many epidemics have been traced to the use of old wells, there might be many more, were it not for the fact that the infectious diseases

require a specific germ for their origin, and until that is introduced contaminated well-water counts for little as a direct disease-producing factor; but let a colony of germs gain a foothold in one of these filth-bearing places, and their growth, development and propagation are simply matters of time. Let us take, for example, an old well at the corner of New Haven Green. For years this has been receiving the drainage of a filth-laden soil, but we have yet to hear of its being counted a factor in disease. Yet, who can tell at what moment fatal germs may find a lodgment? Surely he who drinks of this water has a two-edged sword over his head of which he never dreamed.

Still there are hundreds of just such wells scattered through the country, simply waiting to become infected; but only typhoid breeds typhoid, and for the moment we are perhaps safe; but, after all, we are not so safe as we may imagine, for it has been found that polluted water, although not directly causative of disease without the special pathogenic germs, still predisposes those drinking it to at least one disease—typhoid fever.

What, then, shall be done with the old wells? We all know that in the absence of a public supply deep tube-wells would be the best remedy. Many, very many people cannot avail themselves of this source of supply; and the next best thing is to treat these wells after a method devised by Dr. Koch, which is effective, cheap, and greatly lessens the dangers arising from the use of well-water. An iron tube, two or three inches in diameter—with its lower end perforated—is placed in the center of the well, and the surrounding space filled with fine gravel up to the highest point of water-level. This is then covered with sand to the top of the well; and a pump attached to the end of the tube makes a very effective tube-well. All water, in passing through the layers of sand and gravel, is effectually filtered, and the nitrifying organisms change the filth into harmless nitrates. A filter-bed like this removes, too, from 80 to 90 per cent. of the bacteria, and greatly, very greatly lessens the danger to which all are subjected who drink shallow well-water.

CLINICAL LECTURE.

MODERN MILITARY SURGERY; THE NEW BULLET; PORTABLE DRESSINGS; TELEPHONIC PROBE.

Clinic at the Buffalo General Hospital.

BY ROSWELL PARK, A.M., M.D.,
PROFESSOR OF SURGERY, UNIVERSITY OF BUFFALO.

I HAVE the opportunity, partly through the courtesy of Dr. Appel, now stationed at Fort Porter, of giving you a talk on gunshot-wounds, and of showing you the latest missile in use by the United States Army. The old cartridge used by the regular army, and still in use by the National Guard, contains 70 grains of powder, and the recoil is equivalent to 90 pounds. Thus, after firing a number of rounds the shoulder is likely to become black-and-blue. Then, too, the weight of a sufficient store of such cartridges is considerable. This new cartridge, designed to be used in a rifle made for the United States Government, contains a bullet of 0.30 caliber and 37 grains of powder of the smokeless variety. The projectile is conical and composed of a copper and nickel shell, into which is forced an alloy of tin and lead. The bullet is not altered in shape by its discharge from the piece, nor by its flight through the air. It has a tremendous initial velocity—over 2000 feet per second at the muzzle. The consequence is that, with a much lighter cartridge, fired from a much lighter gun, the modern soldier is about trebled in effectiveness in comparison with his comrade of ten years ago.

As to the surgical side of this matter, the penetrating power of the modern bullet is much greater than that of the old. At a distance of 1000 yards, the old bullet would go into solid oak about three inches. This will penetrate about twenty-two inches, and without altering in shape, whereas the old bullet would be shattered. The old bullet was fairly effective at 1000 or possibly 1500 yards. At a greater distance it would not usually inflict a serious wound, and it was impossible to aim accurately enough to be sure of hitting a man at any such distance. With the improved sighting of the new rifle, however, in connection with the modern projectile, a marksman can kill his man at two miles, and at 2000 yards the projectile will pass through three human bodies. The new bullet does not make so large a wound as the old one, but it does harm in a different way. If I had to be shot through the abdomen at a distance of 1000 yards, I should prefer to be hit by the new projectile, because it inflicts a smaller wound. But modern warfare is going to be more effective and more quickly fatal, because the fighting can be done at long range, as prize-fighters say. Dr. Appel tells me that the field-cannon having a caliber of three inches and firing a projectile similar to this small one is effective at a distance of eight miles.

When a bullet of the old type would pass through the head of the tibia the bone was shattered, and there was an extensive laceration, both external and internal. This modern projectile, on the other hand, will penetrate the bone, leaving a clean-cut hole, like that made by an augur. There is thus a kindly side to modern warfare. The soldier is disabled just as much as though his leg were shattered, but there is not the subsequent necessity for amputation. In other parts of the body, also, this bullet affords a chance for conservative surgery. The soldier can carry twice as much ammunition without increasing his load; he can defend himself with greater readiness; and if he is hit, unless in some mortal part, he has a better chance of surviving the wound.

Many of the soldiers of our army are now supplied with a little packet made up of silk coated with rubber, and containing sublimate-gauze, cambric, and triangular bandages, with a couple of safety-pins. On each triangular bandage are a number of pictures showing how it may be applied to almost any part of the body. In our army the hospital-stewards, company-bearers of

stretchers, and the hospital-corps carry these. In the German army every man carries such a packet. Let us suppose that a man is shot from a distance. He has been taught to double up these little compresses and to put one on each side of the wound—for it must be remembered that this projectile will usually penetrate the body, instead of remaining inside like the older missiles—and to complete the occlusive dressing by applying the triangular bandage. Directions are also printed on the oiled-silk cover. Such a packet as this is available for others than soldiers, and years ago I did my best to have them introduced among the policemen, and to have an arrangement made for elementary instruction in their use. The idea was not carried out, but perhaps, with a more liberal *règime*, it may be at some future time.

I wish to show you a new instrument that I have just procured and which bears on the topic that we have been discussing. Bullets of the modern style will not be likely to lodge unless they have gone through several files of men, but pistol-balls and bullets of the old style are not so likely to escape. The old Nélaton probe was a piece of metal with an end of unglazed porcelain melted on it so as to be perfectly secure. This was passed along the evident bullet-track, and, if it struck the lead, there would be left a black mark on the porcelain. This ingenious instrument is still effective in some cases. In a general way, modern surgeons are opposed to hunting for bullets. The harm that a bullet does is mainly at the instant of its flight, and, as a rule, it then becomes an inert foreign body, and thus it does not call for removal unless it press on some particularly sensitive tissue like that of the nervous system. There are cases, however, in which we must search for bullets and there are times when patients insist on their removal. A variety of electric appliances have been devised for locating the ball, and the thought has arisen in many minds that if we could bring something in contact with the metal which shall effect an electric contact, the current may be made to swing a needle on a dial or ring a bell or give some other warning. Those of you who are well informed in electricity may understand what is meant by the induction-balance. This was tried in the case of President Garfield, but failed because it was too delicate. There have been a number of attempts made to adapt the telephone to indicate when the point of the probe has touched the bullet. This is the latest model of Dr. Girdner's telephonic probe. Dr. Girdner is a New York surgeon, not in military practice; but usually in times of peace the civil surgeons see as many bullet-wounds as those in military practice. The slightest difference in the currents passing in the cords connected with the ear-piece of the telephone produces a faintly audible click. One of the wires is connected with an insulated probe having a metallic end. The circuit is completed by a metallic electrode placed in the patient's mouth, where the moisture insures the conduction of the current. The instant the end of the probe comes in contact with the bullet a slight grating or buzzing sound is heard. By repeating the experiment once or twice, you can assure yourself of the location of the ball. Other experimenters have completed the electric circuit by placing a sponge electrode on the surface of the body, but Dr. Girdner's method is superior. I would suggest only one improvement on the instrument in its present form, namely, the attachment of an elastic band to hold the receiver to the ear, so as to leave both of the surgeon's hands free.

CLINICAL MEMORANDA.

TWO CASES OF AKROMEGALY.

BY HERMON C. GORDINIER, A.M., M.D.,
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CASE I.—William U., aged seventy-seven years, a married Frenchman, was by occupation a shoemaker. His father and mother had died at an advanced age, the cause of death being unknown. The man had had a brother who had died of some form of paralysis at seventy-eight years of age. No nervous history exists in the family, apart from the brother's case. The patient's general health was excellent until five years ago, saving periodic attacks of headache. When quite young he had an attack of pneumonia; but he can recall to mind no other illness until the existing enfeeblement began. The present condition began about five years ago, with frontal and occipital headaches, which were frequently accompanied by dizzy spells, which often caused the patient to fall. These attacks have gradu-

FIG. 1.

ally increased in severity until the present time, and seem, apart from his general weakness, a source of great discomfort. His children have noticed, during the past year particularly, that his memory is very defective, that he is easily amused, and laughs heartily at the most silly trifle; that he seems to take no interest in things about him, and sits most of the time. At rather frequent intervals he labors under fleeting delusions. Prior to the age of sixty-eight his daughter noticed that he began to be stooped, formerly having been noted for his upright carriage. She has observed for a long time the increase in the size of hands and feet. He suffers from thirst,

and consumes large quantities of water, and has at all times an enormous appetite, and frequently will arise at night and eat heartily. He is very sensitive to cold, and has a slight cough during the winter, which disappears with the onset of warm weather. He has frequent attacks of diarrhea, but no hemorrhage from any mucous surface. He voids about three quarts of urine in the twenty-four hours. The teeth have been moderately well preserved until within three years, when a gradual decay and falling out began to take place.

The patient is short, stout, and heavy-boned. He is bent decidedly forward. His height is 5 feet 4½ inches. The hands are very large and broad, the fingers and thumbs large and sausage-shaped and misshapen. The feet also are large, broad, and flat. The chest is very large and deformed. The head is large, the forehead retreating; the superciliary ridges are large and overhanging; the hair is long and coarse, and there is no tendency toward baldness. The ears are normal in size. The skin of the face is thrown into great wrinkles, but is not specially unctuous in feel or appearance. There is no thickening of the skin, which can easily be pinched into folds. The naso-labial folds are accentuated. The nose is moderately long and very broad; the alæ nasi are bulbous; the nasal openings broad. The lips are large, everted, and thickened, but not cyanotic. The malar bones are large, bulky, and prominent. The lower jaw is massive. Prognathism is well marked. There is slight puffiness of the loose tissue about the lower lids. The tongue is long and broad, and projects about 1½ inches beyond the incisors. The thyroid is not palpable. The face is oval; the teeth in the lower jaw are fairly well preserved, but separated by distinct spaces. There is no sponginess of the gums or pallor of the mucous surfaces. The voice is coarse and rough. The following measurements were taken:

Head, occipito-frontal	24⅛	inches.
Occipital protuberances to glabella	14⅛	"
Occipital protuberances to tip of chin	11½	"
Top of forehead to tip of chin	9½	"
Top of forehead to upper end of nasal bone	3⅛	"
Length of nose	2⅜	"
Width of alæ nasi	1⅞	"
Septum to tip of chin	3¼	"
Between malar bones	5⅛	"
Width of mouth	2½	"
Thickness of lower lip	¾	inch.
Length of lower lip	⅝	"
Thickness of tongue	1¼	inches.
Projection beyond incisor teeth	1½	"
Between mastoids	15	"
Temporo-maxillary joint to symphysis	6½	"
Between angles of lower jaw	9½	"
Length of ears	2⅞	"
Width of ears	1¼	"

The chest is large in every diameter; the antero-posterior and lateral diameters are about the same. There is marked dorso-cervical kyphosis, with slight lower dorsal and lumbar lordosis, and slight scoliosis. The head is thrust forward, the chin almost touching the sternum. The left shoulder is lower than the right. The chest bulges posteriorly, more so on the right side. The scapulæ are massive, the right larger (7½ inches) and more prominent than the left (7⅛ inches). The clavicles are prominent (right 7⅛ inches, left 7⅛ inches). The sternum bulges but slightly. The upper ribs are large and prominent. The circumference of the chest through the nipple is 39 inches; at the third rib, 38 inches; in the lower mammary region, 37 inches; on deep inspiration, 39¼ inches; on forced expiration, 38½ inches. The chest moves up and down as if one solid mass, there being but very slight expansion.

The pulmonary resonance is normal; liver-dulness begins in the fifth intercostal space in the mammillary line, in the seventh interspace in the axilla, and in the ninth interspace posteriorly. No vesiculo-tympanitic note is to be heard anywhere over the chest. Good vesicular murmur is present. Expiration is nowhere prolonged; no adventitious sounds are to be heard. Percussion-dulness is not elicited over or on either side of the manubrium. Vocal fremitus is normal. Respiration averages 26 per minute.

The area of cardiac dulness begins at the third rib and extends laterally to the anterior axillary line. The aortic second sound is accentuated. The apex-beat is situated in the sixth interspace on the left, outside the nipple. The first sound is booming, and a little murmurish. There is no epigastric pulsation. The superficial veins of the chest are not prominent, and there is no pulsation of the jugulars. The carotids and radials are atheromatous. The pulse is 72. Arcus senilis is well marked.

The arms are short and massive, the muscles well developed but flabby. The elbow-joints and the wrist-joints are broadened; the lower ends of the bones of the forearms enlarged. The distance from the acromion process to the styloid on the right side measures 23 inches; on the left, 22 inches. The hands are truly enormous, being very broad in comparison with their length; the fingers are very bulky and broad, the thumbs short and broad, the phalangeal articulations enlarged and freely movable. The hands present a purplish hue, and the veins of the dorsum of the hands are overdistended. The palms of the hands and the palmar surfaces of the fingers are covered with enormous cushion-like pads, which do not pit on prolonged pressure, and which give one the sensation of a diffuse cellulitis. Pads of a like nature are found on the palmar surface of the thumbs and about the thenar eminences.

The circumference of the wrist on the right side is 7½ inches; on the left, 7⅛ inches; that of the hands is 11 inches on the right; 11 inches on the left. From the styloid process to the tip of the middle finger measures 8⅛ inches on the right, 8 inches on the left. The circumference of the thumb is 3½ inches.

The feet are very large and broad; the veins of the dorsum are prominent, the heels project well backward, and the bottoms of the feet are flat. The well-known cushion-like pads, so aptly described by Marie, are well marked and completely surround the heels. The toes are uniformly enlarged, the big toes being much broadened, and the cushion-pads are present on the plantar surfaces of all the toes. The longest diameter of the feet is 10⅜ inches right, 10¼ inches left. The circumference over the heel and instep is 15¼ inches left foot, 14⅛ inches right. The circumference of the back of the toes is 9 inches right, 8¼ inches left; the greatest width is 4⅜ inches left, 4¼ inches right. The length

of the great toes is 4 inches; the circumference 3¼ inches right, 3½ inches left.

The patellæ are not specially enlarged; the ankle-joints are strong and massive; the lower ends of the tibiæ are enlarged.

The patient is easily amused, and laughs heartily at mere trifles. His memory is very defective. The mind is frequently occupied by fleeting delusions. At present he labors under two delusions. One is that he has been offered a very fine position and that he must immediately leave to secure it; the other is that he will be presented with a very costly and beautiful gift. Sometimes he is extremely happy, singing, whistling, etc.; and then within a few minutes he will become depressed, melancholy, and listless to an extreme degree.

The pupils react to light and in accommodation. There is no hemianopia. The Wernicke hemiopic pupillary reflex is present. Movement of the eyeballs is perfect. The optic discs are normal. Hearing is still defective. Complete anosmia is present. Sensation of taste is perverted. No other sensory disturbance exists. There is no motor paresis and no muscular tenderness. The bladder and rectum are normal. There is no change in the temperature-sense. The reflexes, superficial and deep, are normal.

The urine varies in amount from three to four quarts; its reaction is acid; the specific gravity 1020. There is present neither sugar, nor albumin, nor blood, nor casts.

Examination of the blood discloses slight leukocytosis, the excess being due mostly to neutrophiles, with a few eosinophiles; unicellular leukocytes are scarce. The red corpuscles appear normal; blood-platelets are not found, and also no nucleated red corpuscles.

The hemoglobin-estimation is 85 per cent.

The blood-count shows 4,500,000 red cells to the cubic millimeter.

On May 25, 1895, the patient complained bitterly of frontal and occipital headache, which was attended with marked vertigo. The appetite was enormous, and the man was constantly hungry. He had pains, neuralgic in nature, in the extremities. During the heated spell he sweat moderately; he ordinarily sweats but little.

On June 3, 1895, he was greatly prostrated, and very much stooped. He complained constantly of dizziness and headache, and had a severe fall from vertigo.

CASE II.—My attention was directed to this case by my student, Professor McKenna, who observed him among a crowd of inmates at the Rensselaer County Hospital, and thought from his general appearance that it was an undoubted case of akromegaly.

John W., aged sixty-three years, an Irish widower, had been at different times a tailor and a miller. His father had died of old age, his mother in childbirth. He has two brothers living and in good health. There is no history of insanity or other nervous affection in the family. The patient had typhus fever in 1849, but otherwise has been in perfect health. He does not suffer from headache or dizziness. He has no correct conception of the length of time that he has been ill or of any special changes that have taken place in his bony system, being an individual of rather inferior mental development and without education. But has noticed that he requires a much larger hat than formerly.

He complains of occasional attacks of facial neuralgia, and has had two distinct attacks of erysipelas. He has no dyspnea, no thirst, and no great hunger, but enjoys a good appetite, and does not sweat immoderately. He has been alcoholic all his life, but denies syphilis. He uses No. 9¼ shoes. There is no history of goiter. The memory is good and vision is fair. The patient never suffered from asthma or dyspnea.

He has a large head, with a retreating forehead and prominent and overhanging superciliary ridges. The occipital region of the skull is very conspicuous.

FIG. 2.

The patient is short and stout, coarse-featured, and 5 feet 4 inches high. He stoops forward. The gait is slow, the feet being held widely apart, and the head carried well forward, so that the chin almost touches the sternum. The hair is coarse, sparse over the occiput, and normal in amount in other localities. There is marked cervico-dorsal kyphosis. The voice is rough and slightly hoarse.

Prognathism is well marked. The lips are thickened and everted, particularly the lower one. The naso-labial folds are greatly accentuated. The nose is short, thick, and bulbous at its extremity. The feet are large. The chest is very massive and prominent. The pulmonary expansion is slight. The clavicles, ribs, and scapulæ are very large.

The head is large, the forehead retreating, the superciliary ridges enormously developed and overhanging. The occipital region of the skull is prominent. The vertex is rounded. The lower jaw is very massive. Many teeth have fallen out, and those remaining are in a decayed and filthy condition; those of the lower jaw are irregularly set and project decidedly beyond the upper. The malar bones are large and prominent. The zygomatic arches are well developed.

The nose is prominent and very broad, especially at its root. The nasal openings are large, the extremity of the nose bulbous, and the member itself decidedly purplish. The lips are much thickened, the lower one considerably more everted than the upper and projecting beyond it. The ears are unusually large, of a waxy, greasy

appearance, and seem thickened. Transverse wrinkles exist on the forehead. There is no edema and no thickening of the skin. The skin of the face has a decidedly oily appearance and feel. The face might in general conformation be likened to that of an ape. The whole face, with the massive lower jaw and the prognathism, would remind one of a depraved criminal.

The tongue is large, thick, and broad. It can be protruded about two inches beyond the incisor teeth. The gums are pale and do not bleed on severe irritation. The patient has never had hemorrhages from mucous surfaces.

The following measurements were made:

Circumference of head	24½ inches.
Distance from forehead to occiput	13 "
Distance from occipital protuberance to tip of chin	13¾ "
Distance from top of forehead to tip of chin	9 "
Distance from top of forehead to upper part of nasal bone	3½ "
Distance from upper part of nasal bone to tip of nose	2⅞ "
Width of alæ nasi	2 "
From septum to tip of chin	3⅛ "
Width between malar bones	7 "
Width of mouth	2⅞ "
Thickness of lower lip	1 inch.
Length of lower lip	2¼ inches.
From mastoid to mastoid	14 "
Lower jaw, from gums to symphysis	2 "
Length of jaw from temporo-maxillary articulation	6¾ "
From angle to angle of lower jaw	9¼ "
Length of ears	3½ "
Breadth of ears	1¾ "

The chest is enlarged in every dimension; the antero-posterior diameter is greater than the transverse. The upper border of the sternum, with the first three ribs and costal cartilages, is bulged markedly forward. The clavicles are very large, measuring from sternal end to acromion 6½ inches on the right side, 7¼ inches on the left. The ribs feel much thickened and enlarged, particularly the upper prominent ones. They are united with those below, judging from the obliteration of the intercostal spaces and from the great resistance offered. The veins on the right side of the chest are visible. None is to be seen on the left. There is slight lordosis in the lumbar region, and well-marked cervico-dorsal kyphosis. Posteriorly in the right upper dorsal region the chest bulges considerably; there is no bulging on the left side. The scapulæ are prominent and massive; their spinous processes are well defined. From the acromion process to the angle of the scapula measures on the right side 10½ inches; on the left side 10 inches. The spine of the right scapula measures 7¾ inches, that of the left 7 inches. The right shoulder is decidedly lower than the left. There is no fulness at the back of the neck. The chest moves up and down as if one solid piece, and apparently there is no chest-expansion in an anterior or a lateral direction. The vocal fremitus has its normal disparity.

The pulmonary percussion-note is normal. Liver-dulness begins at the fifth rib; cardiac dulness at the lower border of the fourth rib; splenic dulness is normal. An area of dulness exists beneath the upper part of the sternum and extends laterally beneath the first ribs. No vesiculo-tympanitic note is to be heard anywhere over the chest. The heart-sounds are normal. The apex-beat is in its normal position. There is no prolonged expiration; the vesicular element is everywhere well marked. The pulse is 64, soft, full, and strong; respirations are 20; the vessels are not atheromatous. Measurements of the chest:

Circumference of second rib	38½ inches.
Circumference of nipple	38 "
Circumference in lower mammary region	37 "
On deep inspiration	39 "
On deep expiration	38 "

The thyroid gland is not palpable.

The abdomen is protuberant and lax, and the skin and soft parts are thrown into great transverse folds.

The hands are broad and spade-shaped; the veins of the forearm are moderately distended; the fingers are broadened; the joints are all enlarged and freely movable; the finger-ends are bulbous and cushioned on the palmar aspect; the nails are oval; the thumbs are long and broad.

The circumference of the wrist-joint on the right side is 7¾ inches; on the left side 7¼ inches.

The circumference of the hands when closed is on the right side 11 inches, on the left side 10¾ inches.

The distance from the styloid process to the tip of the middle finger is on the right 8 inches, on the left 8 inches.

The muscles are soft and flabby.

The feet are long, broad, and flat; all of the toes, save the big toes, are arched at the junction of the first and second phalangeal joints. The large toes are broad.

There is no enlargement of the lower ends of the right tibia and fibula. On the left is an old fracture, with deformity and marked thickening of the whole shaft of the tibia.

A marked pad or cushion of flesh is present about the inferior, lateral, and inferior surface of heels, which project posteriorly beyond the os calcis.

The longest diameter of the foot is 10⅛ inches on the right, 10½ inches on the right; about the heel and instep, 13 inches. The circumference of the ball of the toes is 8½ inches on right and left; the greatest width is 4 inches on the right, 3⅞ inches on the left. The length of the great toe is 3¼ inches on both sides. The circumference of the big toe is on the right side 3½ inches, and on the left 3 inches. The patient is flat-footed; the gait is clumsy and waddling, the legs being spread wide apart.

The pupils are moderately contracted, but respond to light and in accommodation. The movements of the eyeballs are perfect. There is no evidence of sympathetic irritation or paralysis. Wernicke's hemiopic pupillary reflex is present; there is no hemianopia. The hearing-distance is reduced to 3 inches on the left side, to 4 inches on the right, in consequence of a chronic catarrh of the drum. The other cranial nerves are intact.

There is no muscular tenderness and no anesthesia. The reflexes are normal, and there is no paresis. Apart from the low order of intelligence there exist no mental symptoms. The urine is normal in amount, and contains no albumin, sugar, blood, or casts.

There exists a normal proportion between the red and white blood-corpuscles. The whites are mostly neutrophiles, with an absence of eosinophiles. There are no nucleated red corpuscles. The hemoglobin is estimated at 70 per cent. The red corpuscles number 4,800,000 to the cubic millimeter. The blood flowed freely and was very cyanotic.

EXOPHTHALMOS (GRAVES' DISEASE) WITHOUT THYROID ENLARGEMENT.

BY P. S. DONNELLAN, M.D.,
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VISITING PHYSICIAN TO ST. MARY'S HOSPITAL; LECTURER ON PHYSICAL DIAGNOSIS, MEDICO-CHIRURGICAL COLLEGE.

M. H., a married woman, aged forty years, a weaver by occupation, was admitted to my care at St. Mary's Hospital on May 4, 1895. She presented the following history, for which I am indebted to Dr. Joseph H. Ross, one of the resident physicians at the hospital.

Her father had died at the age of forty-five years from chronic nephritis; her mother at the age of thirty-two years of puerperal fever. All of her brothers and sisters had died in infancy. In the families of the parents there was no history of nervous disease or of any disease similar to that from which the patient was suffering.

The patient herself was born in Scotland, and came to this country when fourteen years of age. She had always enjoyed good health until twelve years ago, when she was treated at this hospital for typhoid fever, from which she recovered without complication or sequel. She remained in good health until three years ago, when her present illness began—the result, she states, of a fright from a beating she received from her husband. There was no history of rheumatism or of alcohol, and specific infection was denied.

Since her present illness began, the woman complains of constant and severe cardiac palpitation, with shortness of breath, vertigo, and insomnia. For three months previous to admission there has been swelling of the feet, particularly after standing or walking for any length of time; and the quantity of urine was much diminished. The patient has also noticed that her eyeballs have become very prominent, and they feel, as she expresses it, as if they would bulge out of her head. She suffers from occasional attacks of bilious vomiting; her appetite is poor; her bowels are constipated, and her tongue is coated.

The patient is a feebly nourished anemic-looking woman. Her eyeballs are very prominent. In looking downward the upper eyelids do not follow the descent of the eyeballs (von Graefe's symptom), and, while the voluntary movements of the lids are unimpared, the complete absence of involuntary winking (Stellwag's symptom) is noted. Dr. Louis F. Love, ophthalmologist to the hospital, kindly made an examination of the eyes for me and confirmed these observations. He reported in addition: "Pupils, 2½ mm., about equal; active to light, but sluggish in accommodation and convergence. Ophthalmoscopic examination—corneæ maculated, rest of media apparently clear; discs oval, axis 180°; veins well filled, with dilatation; marked astigmatism in each eye." Dr. G. Hudson Makuen, laryngologist to the hospital, kindly examined the patient for me, and reported that there was no enlargement of the thyroid gland.

There was visible pulsation in each carotid artery noticeable at a distance of six feet from the patient. The pulse varied between 160 and 190 beats per minute, except when the patient had been taking two ounces of infusion of digitalis in the twenty-four hours for several days, when it dropped to 68 beats per minute, only to rise again when the digitalis was suspended. The vascular tension was much below normal.

In examining the chest, increased frequency of respiration (from twenty-five to thirty per minute) was noticed, but otherwise the respiratory functions were normal. The heart was hypertrophied, as shown by increased area of cardiac dulness downward and to the left. The impulse was felt in the sixth interspace to the left of the nipple-line. Auscultation revealed violent and irregular cardiac action, with increased frequency of the number of beats and synchronous with the radial pulse. A well-marked mitral systolic murmur was heard at the apex, transmitted to the axilla and to the angle of the scapula. The urine was negative chemically and microscopically, and upon admission measured only two ounces in the twenty-four hours, but rest in bed, and the use of the infusion of digitalis with strychnin, rapidly brought the quantity up to the normal.

The principal points of clinical interest in this case are the absence of enlargement of the thyroid gland and the visible pulsation in the carotid arteries. Most observers with whose studies I am acquainted regard these phenomena as unusual. Trousseau called cases of this kind *formes frustes* (abortive forms), and considered them important types of the disease. An elaborate study of cases in which either the goiter or the exophthalmos may be wanting was made by Marie, who found that in such cases tachycardia was frequently present, and often accompanied by tremor. Hirt quotes the observations made in his wards by Ernst Cramer, who was able to confirm the results of Marie. The consensus of opinion seems to be that the excited and accelerated heart-action is the first characteristic symptom of Graves' disease; then follows symmetric enlargement of the thyroid gland, the exophthalmos being, as a rule, of later development. Whether in this case the natural order of things has been reversed, and the enlargement of the thyroid gland may yet take place, only subsequent observation can determine.

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For the James E. Reeves Fund we have received from Dr. Theodore G. Davis, $1.

SUCCESSFUL LIGATION OF THE LEFT COMMON CAROTID ARTERY.

BY FRANK L. LAPSLEY, A.B., M.D.,
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ON March 27th I was called to see M. E., aged thirty-three years, a bricklayer, and found him in a state of intoxication, with the surroundings strongly suggestive of his having attempted suicide. I learned that in attempting to shoot himself through the head his arm had been struck by someone, knocking the pistol downward, when it was discharged. The bullet, of 32-caliber, entered the mouth and passed out at the left angle, just between the superior and inferior maxillary bones. There was evidence of slight hemorrhage having occurred, but this had ceased when I reached the man. He was at once conveyed in the ambulance to the city hospital, where, with strict aseptic precautions, an exploration of the wound was made, using my little finger as a probe. I found the course made by the bullet to be slightly upward and outward. The bullet was located against the ramus of the inferior maxillary bone and was extracted with a pair of artery-forceps. It was so battered out of shape I could not determine positively, but supposed that it was removed *in toto*.

Further examination showed that the bullet had struck the ramus near its lower anterior border. Three small spicules of bone were felt and removed.

Slight hemorrhage followed this manipulation, but was easily controlled by packing with iodoform-gauze. The wound was thoroughly irrigated with a solution of mercuric chlorid 1 : 3000.

At the end of forty-eight hours there was evidence of beginning suppuration, which continued freely, despite the daily irrigation with mercuric chlorid and packing with fresh gauze. The jaw and neck were so swollen as to prevent the man from opening his mouth further than to admit a small glass-tube, through which he took stimulants and nourishment. The administration of morphin and applications of heat were necessary to relieve the intense suffering.

At midnight of April 10th, two weeks from the reception of the injury, the man suddenly had a profuse secondary hemorrhage. This was readily controlled by packing firmly in the angle of the mouth. This hemorrhage was, I think, due to the process of suppuration extending into the walls of one of the facial branches. On the next day I deemed it advisable to establish freer drainage, and accordingly made a counter-incision in the neck on the left side about two inches from the median line. This opening communicated with the mouth, and the entire tract was irrigated daily with mercuric-chlorid and hydrogen-dioxid solutions. The patient continued to suffer great pain in the jaw, the side of the face, and the ear. The swelling and inflammation of the neck and the side of the face subsided.

On April 17th, just one week later and at the same hour of night, the man had another and more profuse hemorrhage than the first. I reached his bedside quickly and observed blood to be streaming from the wounds both in the mouth and neck. I at once compressed the carotid artery and the hemorrhage ceased, but the patient having lost two pints of blood was so exsanguinated that he fainted. He was resuscitated by stimulants and application of heat.

I packed the wound in the mouth and applied a tight compress over the wound I had made in the neck. I realized that the case now demanded immediate surgical interference; so I summoned Drs. Grant, Dugan, and Vance, and when they saw the case a few hours later a false aneurism existed.

It was agreed best and safest to ligate the common carotid artery, and the operation was undertaken by Dr. Grant and myself. The patient was accordingly prepared and anesthetized, taking the anesthetic badly. The point selected as the most favorable was that part of the vessel which is at the level of the cricoid cartilage. It is unnecessary to give a detailed account of the steps of the operation, but suffice it to say the vessel was reached with little difficulty and ligated with No. 10 braided Chinese silk, bearing in mind the relation thereto of other important structures. The incision was carried up over the angle of the jaw, where, after turning out some clots, considerable necrosis of the bone was discovered. Another portion of the bullet was found lying against the anterior surface of the bone, showing that it had split and perforated the ramus. This was thoroughly scraped and irrigated, and allowed to remain open and granulate from the bottom. Two sutures were introduced at the lower angle of the wound and the usual antiseptic dressings applied. The man rallied from the shock nicely, and was at once put upon stimulants, reconstructives, and plenty of nourishing diet. His convalescence was gradual and permanent. The wound healed kindly, and he now suffers no inconvenience, except a slight stiffness of the jaws, which I think he will eventually overcome.

The pulsation in the temporal artery is entirely absent on the left side. The patient was discharged from the hospital on June 24th.

COMPLETE PROLAPSE OF A PREGNANT UTERUS. OPERATION, FOLLOWED BY ABORTION.

BY J. MASON HUNDLEY, M.D.,
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THE case herewith reported demonstrates the value of amputation of the cervix with repair of the perineum for the cure of complete prolapse. Various pessaries, together with tampons and attention to the general health, had all been tried without effecting a cure. Mrs. H. E. H., aged twenty-three years, the mother of one child, four years of age, presented herself at the University of Maryland Clinic, July, 1893, with the following history: Since the birth of her child she had suffered with bearing-down and dragging pains in the lower abdomen, especially when on her feet for any length of time. For the past six months she had been unable to lead an active life because her uterus came down so low, causing pain and unendurable discomfort. She was separated from her husband and had to make a living for herself and child, and, therefore, sought relief.

Upon examination, the uterus was found entirely without the vulva. The cervix was eroded, and the mucous membrane of the vagina presented the appearance of

parchment. There was no disease of the adnexa and no mass within the pelvis; nor were there fibroids of the uterus. The perineum was not lacerated, but greatly relaxed, and the muscles attenuated. The woman was extremely emaciated. She menstruated regularly and not profusely, and she said that she had just gotten over her sickness. We admitted her at once to the gynecologic ward, and she was operated on by me, as Dr. William T. Howard was absent from the city. Just before operating, a probe was passed into the uterus, to demonstrate to the class the great difference between the length of the uterus in the third degree of prolapse and that of the same organ in its normal position. The cervix was amputated at its vaginal attachment and the raw surface covered over by mucous membrane. The modified Emmet operation was performed on the perineum. On the evening of the day of the operation I was telephoned for, and on reaching the hospital found the woman bleeding quite freely. I examined her as best as I could and found that the blood was coming from the uterine cavity. I tamponed the vagina, and on removing the dressings in the morning I found in the vagina from a four to a six weeks' fetus. The woman made an uninterrupted recovery in spite of the abortion. After leaving the hospital she went to live with her husband again, and last September gave birth to a full-term child, the labor being normal and not unusually tardy.

I am sure this woman intentionally deceived me as to her menstruation. The experience, however, taught me a useful lesson, which will not be easily forgotten. Whatever the condition of a uterus, the possibility of pregnancy should never be lost sight of. I have had no experience with Hegar's sign of early pregnancy in a procidented pregnant uterus, but, under normal conditions, I believe it a most valuable sign; in fact, I have never found any condition of the uterus giving the same thinning of the lower uterine segment as that found in pregnancy. If I had looked for the sign in this case, I might have demonstrated it, and have avoided the blunder of operating upon and introducing a probe into a pregnant uterus.

BACTERIOLOGIC NOTE.

A NEW METHOD OF STAINING FLAGELLA.

BY ROBERT L. PITFIELD, M.D.,
OF PHILADELPHIA.

LOEFFLER'S method of staining flagella is probably the one most commonly and generally employed. This consists in treating the bacteria to be stained with a mordant made up of tannic acid and ferrous sulphate, and then staining the bacteria with a solution of an anilin color in water.

I have devised a method which is simple, and, in my hands, much more reliable and easier of execution. It is as simple as the staining of bacteria with ordinary carbol-fuchsin, and I have stained over fifty preparations of flagellated micro-organisms, each time demonstrating the flagella most satisfactorily.

The method consists in the use of but a single solution, which is at once mordant and stain. The solution should be made in two parts, which are filtered and mixed.

A.

Saturated aqueous solution of alum	10 c.cm.
Saturated alcoholic solution of gentian-violet	1 c.cm.

B.

Tannic acid	1 gm.
Distilled water	10 c.cm.

The solutions should be made with cold water, and immediately after mixing the stain is ready for use.

The cover-slip is to be carefully cleaned, the grease being burned off in a flame, and after it has cooled the bacteria are spread upon it, well diluted in water, care being taken to exclude culture-medium. After the preparation has been thoroughly dried in the air it should be held over the flame with the fingers, as Loeffler has directed. Afterward the stain is gradually poured on the slip and heated gently, bringing the fluid almost to a boil; the slip covered with the hot stain should then be laid aside for one minute, then washed in water and mounted.

Upon examination, the bacteria, both isolated and in clumps, will, if motile, be found to have the flagella clearly and delicately defined. In the middle of the cover-slip, as well as around the edges, the bacteria will be found equally well stained; the clumps being surrounded by a zone of delicate fringing flagella, each being well stained and distinctly outlined from its fellows.

If a clean preparation is desired, the stain, after mixing, may be filtered, but I have found that the most reliable method is to use the unfiltered stain. In the case of the former a clear field is produced without the detritus, etc., precipitated on the glass around the micro-organisms; and all the flagella are stained, but not so distinctly as with the unfiltered solution.

If the filtered stain is used, a second stain of anilin-water containing gentian-violet had better be used, which should be applied but a moment and then washed off, thus leaving a clean field, showing only the bacteria lightly stained, with their flagella still more lightly colored.

In examining the different bacteria, I have found that the bacillus of typhoid fever, the colon-bacillus, the cholera-bacillus, and the bacillus of hog-cholera, each stained well by this method, and without the addition of any acid or alkali to the mordant, such as Loeffler uses.

The bacillus of typhoid fever showed the flagella most beautifully, and there seemed one flagellum to each cell that stained more deeply than the others and appeared larger and stronger.

As to the keeping qualities of the stain I have not fully ascertained, but presumably it should be mixed daily to yield the best results.

MEDICAL PROGRESS.

Hepatic Abscess following Duodenal Ulceration Caused by a Burn.—HEHIR (*Indian Medical Record*, vol. viii, No. 12, p. 438) has reported the case of a soldier who sustained a severe and extensive burn, principally involving the face, scalp, front of the neck, and the trunk, due to the explosion of a kerosene-oil lamp. When seen, twenty minutes after the accident, the patient was in a semi-collapsed state. Morphin and atropin were at once in-

jected hypodermically, and the burned surface covered with carron-oil. On the ninth day the patient complained of pain in the epigastric region, which gradually extended until it occupied the whole of the anterior part of the abdomen above the umbilicus. The pain was increased by pressure, especially in the epigastrium, and also by cough, deep breathing, and the lateral decubitus. There was slight fulness of the liver, but no pain on pressure. On the twelfth day diarrhea began, the stools at first being semi-liquid, and later containing blood and mucus. On the twenty-first day copious hemorrhage took place, which was checked by the use of cold externally, and ergot and turpentine internally. The patient now appeared to convalesce, and on the thirty-fifth day returned to duty and continued at work for eighteen days. He was then seized with a croupous pneumonia, which ran an ordinary course, but after the crisis he failed to convalesce satisfactorily. The cough continued, with diffuse pain over the whole of the base of the right lung, and there was perceptible bulging below the lower angle of the right scapula. After this condition had continued for a month, six ounces of inflammatory fluid were on exploratory puncture removed from the pleural cavity, but without affording relief. The temperature remained elevated, and profuse sweats occurred at night. To these symptoms rigors became added, and there appeared severe pain over the liver and lower border of the chest-walls posteriorly.

After a time the liver began to increase considerably in size, the cough became more severe, dyspnea set in, and severe vomiting occurred during each exacerbation of temperature. It was believed that an accumulation of pus had formed in the liver, but exploratory puncture failed to demonstrate its presence. Some time later an exploratory operation was undertaken and fifty-nine ounces of pus were removed. The patient did well for a time, but the symptoms returning, forty ounces of pus were removed at a later date. The patient, however, failed to rally, and gradually became worse, and finally died, although twenty-seven ounces of seropurulent fluid were removed from the right pleural cavity.

Upon post-mortem examination practically the whole of the lower half of the duodenum was found in a state of patchy congestion, with five healed and two healing ulcers, the largest about the size of a shilling, the smallest a half-inch in diameter. In one place three ulcers had run into one another, and the previous ulcers were represented by a grayish depression with an uneven base, but well-defined borders. The whole of the pyloric extremity of the stomach was thickened, soft, and congested, and just above the upper semicircumference was a rough, uneven surface with hard edges. The peritoneum over the whole of the liver was much thickened, as were also the folds of the lesser omentum, which were covered with thick layers of puriform lymph. The spleen was enlarged to three times its normal size, and its peritoneal coat was thickened and covered with lymph. The peritoneal cavity contained eleven ounces of opalescent sticky fluid, with small flakes of inflammatory material. The right lung was collapsed to one-third its normal size, and covered over its whole surface with a layer of puriform lymph. The whole of the lung was congested, and the lowest lobe and greater part of the middle lobe presented an appearance of purulent infiltration. The liver was considerably enlarged and adherent to the diaphragm throughout its upper and posterior surfaces. At one point the diaphragm was partially eroded by advancing suppuration. The right lobe was occupied by three abscesses; the largest one, the one aspirated, was full of pus similar to that aspirated, and was about the size of an eight months' fetal head; another, anterior to and below this, was about the size of a lawn-tennis ball; and the third, internal to the smaller one, was about the size of an almond. The left lobe also contained three abscesses in close juxtaposition to one another, the largest being about the size of a walnut. Surrounding each of these abscesses were a large number of small white patches, which were in reality points of suppuration, about to coalesce with the larger ones. The pus contained neither staphylococci, nor streptococci, nor amœba coli, but there were large numbers of ordinary small micrococci, and a number of small bacilli with rounded ends, which stained by Gram's method, and which presented a beaded appearance.

Multiple Diabetic Neuritis.—At a recent meeting of the Edinburgh Medico-Chirurgical Society, FRASER and BRUCE (*British Medical Journal*, No. 1795, p. 1149) reported the case of a man, thirty-six years old, coming under observation with symptoms of diabetes. There was no anemia, although there were tuberculous changes in the upper lobes of both lungs. The daily amount of urine was 194 ounces with 7187 grains of glucose, and the specific gravity was 1038. After resting in bed for a few days the quantity fell to 132.5 ounces, with 738 grains of urea and 3862 grains of glucose, and on a restricted diet to 120 ounces, with 657 grains of urea and 2736 grains of glucose. Later, pains in the ankles and legs appeared, but without numbness. Thermal and electric sensations were normal. The knee-jerk was absent on both sides. Station was steady. There was central scotoma on the right side. Despite increase in weight, no real progress was made, and finally the patient was unable to leave his bed. Dyspnea, orthropnea, and death soon followed. Upon post-mortem examination tuberculous changes were found in the upper part of each lung. There was a marked area of degeneration in one of the optic nerves. The medullary sheath was quite gone and there was parenchymatous degeneration, although the axis-cylinder was still mostly present. Between the muscular columns of the gastrocnemii there were little patches, consisting of rows of black dots, such as are seen in the muscles of the heart in fatty degeneration. These rows of dots appeared to be in the substances of the fibers, binding these together. The striation was still present.

Malposition of the Sigmoid Flexure in the Right Iliac Fossa.—MUNDELL (*Dominion Medical Monthly*, vol. v, No. 5, p. 39), in demonstrating the operation for appendicitis upon the dead subject, found the usual seat of the cecum occupied by the sigmoid flexure, which, passing transversely across the fourth lumbar vertebra, formed a bend in the right iliac fossa, and then ran down into the pelvis on the right side. On tracing the parts upward the cecum was found lying above the bend of the sigmoid, and on a level with the upper border of the fourth lumbar vertebra, the appendix lying about one inch

higher up and opposite the middle of the third lumbar vertebra. The sigmoid mesocolon blended with the right extremity of the vertebral attachment of the mesentery, and a ridge of the peritoneum ran from the outer side of the sigmoid bend along the cecum above, so that on introducing a finger into the original incision the sigmoid and the cecum above it appeared to be a continuous piece of bowel. The cecum and the ascending colon were together only three-and-a-half inches in length. The appendix was found lying coiled up on the left posterior aspect of the cecum, in one of the retrocecal fossæ, there being two. In such a case as this there might be considerable trouble in diagnosis in case of disease of the appendix, and likewise of the sigmoid flexure. Reference is made to a second case in which the sigmoid encircled the left iliac fossa, lying close behind Poupart's ligament, then running back along the margin of the pelvis across the sacrum to the right side, and then down into the pelvis.

Abortive Akromegaly with Macroglossia.—At a recent meeting of the Société Médicale des Hôpitaux, CHAUFFARD (*Le Mercredi Médical*, 1895, No. 29, p. 345) reported the case of a house-painter, thirty-two years old, who came under observation on account of difficulty in breathing, and who presented a striking enlargement of the tongue. The organ was 7 centimeters long and 21 millimeters thick, and extended beyond the lower lip 5½ centimeters. Neither the lips nor the isthmus of the pharynx was hypertrophied. For two years it had been noticed that the inferior maxilla was increasing in size. The teeth of the upper jaw had mostly fallen out and those of the lower were in advance of the line of the upper. The frontal bone was low and presented marked transverse ridges. The nose had increased in thickness in several months. The cranium was dolichocephalic, without hypertrophy of its sutures or of the frontal sinus. There was slight cervico-dorsal kyphosis, with compensatory lumbar lordosis. The penis had become thicker and longer. The thyroid gland was small and there was no evidence of persistence of the thymus. Vision was lost in the left eye. The pupillary reactions were feeble. Upon the right there was myopia, with recent slight posterior staphyloma. The papilla was hyperemic and the retinal pigment atrophic. Upon the left there was deficiency of color of the external segment of the papilla. There were, besides, headache and increased frequency of micturition. The extremities presented no change. The case is believed to be an undeveloped one of akromegaly.

Experimental Ulcerative Endocarditis.—At a recent meeting of the Berlin Society for Internal Medicine MICHAELIS (*Deutsche medicinische Wochenschrift*, 1895, No. 31, Supplement No. 19, p. 131) reported that in the course of certain experimental observations upon immunity to pneumococcus-infection, made in conjunction with G. Klemperer, ulcerative endocarditis developed in one of the animals (a dog) employed. The animal had for four months been treated with increasing doses of an intensely virulent culture of pneumococci. It appeared extremely ill five days after the last intraperitoneal injection, and death followed a day later. Upon post-mortem examination marked ulcerative endocarditis was found, perfectly comparable to that observed in man, and bacteriologic examination disclosed in the valves involved pneumococci in considerable numbers, and similar organisms were cultivated from blood removed from the heart under suitable aseptic precautions.

THERAPEUTIC NOTES.

In the Treatment of Chronic Bronchitis DUBOURG (*Journal de Médecine et de Chirurgie*, August, 1895, p. 591) has employed a combination of guaiacol and iodoform by hypodermic injection:

Take—Guaiacol	2.5 grms.
Iodoform	0.5 grm.
Sterilized olive-oil	50 grms.

The iodoform is first dissolved in ether, a portion of which is allowed to evaporate and the residue is added to the guaiacol and the oil. Iodoform thus treated dissolves perfectly and the result is a clear and limpid liquid. Each cubic centimeter contains one centigram of iodoform and five centigrams of guaiacol. Two cubic centimeters are injected on the first days, and from three to three-and-a-half on the following days. Under the influence of this treatment expectoration is at first increased but subsequently diminished; other symptoms, cough, dyspnea, loss of appetite, etc., gradually subside.

In the Treatment of Favus the hair of the affected part is cut as short as possible and the following ointment applied upon linen:

℞.—Floris sulphuris	15 grms.
Sodii carbonatis	4 "
Picis liquidi	50 "
Tincturæ iodi	50 "
Axungiæ porci	100 "

After the lapse of twenty-four hours the affected parts are cleansed with warm soap-water and application of the ointment renewed. The treatment is intermitted as soon as the skin desquamates freely, when resort is had to a salicylated zinc-ointment. A cure may be expected in the course of three weeks.—*Rev. de Thérapie*, No. 13; *Corresp.-bl. f. Schw. Aerzte*, 1895, No. 15, p. 480.

The Treatment of Diabetes Mellitus with Uranium Nitrate.—At the recent meeting of the British Medical Association, WEST (*Medical Press and Circular*, No. 2936, p. 153) reported the employment of uranium nitrate in doses of from 5 to 15 grains three times a day, in the treatment of a number of cases of diabetes, with the result of reducing the quantity of urine excreted and diminishing the proportion of sugar to a very small amount. It was repeatedly shown that these results followed the administration of the drug, with a return to the previous conditions upon the withdrawal of the drug. The larger doses yielded the best results.

For Summer Diarrhea.—Take

Phenyl salicylate	1 dram.
Bismuth salicylate	3 drams.
Oil of gaultheria	12 minims.
Chalk-mixture	3 fluidounces.—M.

Dose: Two fluidounces every two hours. Opium may be added if there is much pain. GRIFFITH—*Phila. Polyclinic*, vol. iv, No. 34.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, SEPTEMBER 7, 1895.

THE TREATMENT OF MALARIAL HEMATURIA.

ONE of the most interesting, and, to those who have to deal with it in practice, one of the most important therapeutic problems, is the treatment of malarial hematuria. This has been discussed in all parts of the world, and nowhere has a satisfactory conclusion been reached. How the case stands in this country can be learned from a recent report, in which it is shown that one-hundred-and-seven physicians in the Southern States use thirty-two remedies in the treatment of the disease. How many theories of the disease and its cure are entertained by the contributors to the report cited does not appear, but it is safe to say that the number does not fall far short of the number of drugs. The most recent contributions to the subject come from the West Coast of Africa *via* Germany. As usual, they are diametrically opposed on a fundamental point.

Plehn[1] contends that in the hematuria of the West Coast quinin is not only useless, but that it actually causes the hematuria—a statement that has been made in other times and places. On the other hand, Küchel[1] maintains that quinin is a specific, but only when given in large doses. He quotes Steudel, who gave doses of from 8 to 12 grams (2–3 drams) of quinin in a day, repeating the dose (1 gram=15 grains) in case vomiting occurred soon after it was taken. It is not surprising to learn that Steudel had 1 case of amaurosis out of 9 cases so treated, blindness occurring on the third day, after 18 grams (270 grains) had been taken. Küchel himself had 1 case of quinin-blindness out of 4 cases treated, in the person of a small anemic woman, who took 8 grams (2 drams) in two days. To offset the statement of Plehn, that quinin causes hemoglobinuria and hematuria, Küchel mentions a patient of Steudel who took one-hundred-and-twenty-three grams (nearly 4 ounces) of quinin in twenty-three days, an average daily dose of 5½ grams (82 grains), and during this time the hemoglobin of the blood rose from 16 to 64 per cent., the red corpuscles from 1,600,000 to 4,458,000 per cubic millimeter.

The first thought that strikes one in reading these articles is the singular lack of judgment of the writers, lack of judgment in practice as well as in drawing conclusions. Plehn gave doses of 1 or 1½ grams (15–22 grains) of quinin a day by the mouth, dry, or rarely 2 grams (30 grains) per rectum. Even if complete absorption took place, the doses were comparatively small; but, as a matter of fact, from the nausea and the "intractable vomiting" noted in the report, even these small doses were of little more benefit to the patient than if they had been in the doctor's chest. If Steudel's patients absorbed more quinin than those of Plehn, it was only because they were loaded with the drug. That they would absorb it was impossible of prediction. If absorption was good, amaurosis was only too likely to follow. That one patient improved under the highly poisonous dose of 123 grams (nearly 4 ounces) in twenty-three days, only proves that the absorption in that case was relatively poor or absent. Evidently Plehn's patients were more likely to escape under such treatment than were those of Steudel. Plehn does not say why he used such uncertain methods of administration, but Steudel admits that he avoided the hypodermic method because he feared abscesses and tetanus! Küchel had this same fear, though in one case he gave 1 gram (15 grains) hypodermically. Küchel gives an ingenious explanation of the results obtained by

[1] Plehn: Berliner klinische Wochenschrift, 1895, Nos. 25, 26, and 27.

[1] Küchel: Loc. cit., No. 28.

Plehn and by so many others, in which the administration of quinin seemed to provoke a fresh paroxysm of fever. He suggests that in such cases the amount of quinin absorbed is too small to check the development of the parasites, but rather acts on them as an irritant, increasing their activity, and so causing the results observed. This explanation is worthy of experimental proof.

In speaking first of the therapeutics of the writers quoted we have passed over the important matter of diagnosis. It is a curious fact that they, like many others, speak of the diagnosis of malarial hematuria as being very simple, although they also show that it is often difficult, and even if the ordinary clinical diagnosis does seem clear, it is necessary in these days to confirm it by the demonstration of the parasites. This is imperative when questions of treatment are under consideration. Not only must the presence of the hematozoa be proved, but the form or variety and the relative numbers of the parasites must be mentioned, in order to convey an idea of the indications for or the difficulties of treatment. It is true that Plehn found parasites in the blood in his cases, but his description of the organisms is insufficient. One point comes out clearly, that whereas the parasites he describes closely resembled those found in severe cases in Rome, the treatment carried out was of a kind recognized as inefficient by Italian physicians. Plehn says that the parasites of the Cameroons are not affected by quinin; but, as it is doubtful whether he ever brought them in contact with quinin, the statement is not pertinent.

It is not our intention to speak here of the treatment of malarial hematuria or hemoglobinuria in detail, but rather to emphasize certain points concerning what may be called the specific treatment. In cases such as the German-African physicians describe, and which are similar to cases occurring in various parts of the United States, there is a rapid destruction of red blood-corpuscles by the pathogenic parasite. The loss of blood from this cause is infinitely greater than that from the kidneys. In actual cases the daily loss of red blood-corpuscles in the vessels has been found equal to the direct abstraction of two-and-a-half pints of blood.

Besides the destruction of blood, the parasites produce other dangerous effects, largely toxic in character—effects which, so far as we know, are best treated by removing the cause. In order to do this quinin must be so given as to enter the circulation, and the best way of effecting this is the hypodermic method or the intravenous method as improved by Baccelli. The quinin must be given in sufficient doses, not less than 1 gram (15 grains) being taken within a short time. Doses up to 3 grams (45 grains) in a day may be used, but it is doubtful whether larger doses are proportionately beneficial, while they are certainly more dangerous. The remedy is more efficient if given at such a time as to act on the parasites in their earliest stage of development, a point that can be most accurately determined by microscopic examinations of the blood, and only in this way in those cases in which the course of the disease is irregular. The quinin, even in the doses mentioned, may exert injurious effects on the kidneys. This is unfortunate, yet it is not unique in therapeutics. No surgeon, for example, hesitates to operate when operation promises to save life, merely because he fears the effects of the anesthetic on the kidneys; yet the conditions in pernicious malaria are not dissimilar.

The fact that the malarial disease often undergoes spontaneous recovery does not essentially alter the problem, because such recovery does not always take place, nor can it be predicted in any given case. Moreover, the dangerous effects of quinin feared in these cases have never yet received scientific demonstration, all the results attributed to the drug having been observed in cases treated without quinin. After the specific action of the quinin has been exerted, as determined by the condition of the blood, the drug should be stopped. In practice this will usually be in three or four days, yet it may be earlier. The remedy is not needed at this time for its effect on the parasites; its tonic effect may be spared; and even in small doses it may have an injurious effect on the kidneys without any corresponding benefit. During this time, as well as earlier, symptomatic treatment is often indicated, and in this a number of drugs, as well as other measures, may be necessary. At the same time thermometric observations and examinations of the blood must be carried on, in order to give the earliest warning of a possible revival of the parasite—to be again followed by the administration of the specific.

We do not mean to say that such time-consuming methods as have been named are to be generally used. It would be well if they could, as they would give to medical therapeutics some of that pains-

taking accuracy which has done so much to elevate surgery to the high plane it now occupies. Yet, in order to show the value or the want of value of any form of treatment, the procedures mentioned must be followed; otherwise the same contradictions and the same errors as those that we have just criticised will recur indefinitely.

REPORT OF THE PENNSYLVANIA STATE COLLEGE FOR THE YEAR 1895.

IN this pamphlet-volume of 376 pages, containing a large amount of matter interesting only to agriculturists, and representing much careful and intelligent investigation, we note as of special medical interest an article of over thirty pages, contributed by Dr. Leonard Pearson, on tuberculosis in cattle. This presents a comprehensive summary of the extent of disease in the State College herd, and is especially valuable in view of the care that has been taken to ascertain the dangers and fallacies of the tuberculin-test.

After a brief review of the general morphology and biology of the *Bacillus tuberculosis*, Dr. Pearson points out that all domestic animals are subject to the disease, but with different degrees of susceptibility, neat cattle being most susceptible, dogs and cats the least. In passing we may note a thought as to how far this high insusceptibility to tuberculosis among the animals that are most closely associated with the household has been developed under the principle of natural selection, which has thinned out those forms that were not very resisting. Whatever may be the reason, it is fortunate that the animals which are so frequently brought into close contact with young children, sharing their playing as well as their sleeping hours, should be unlikely to suffer from so dangerous a disease.

Concerning the conditions that render dairy-cattle liable to tuberculosis, Dr. Pearson distinguishes heredity, though of course not in the sense in which that word was formerly understood, as a direct inheritance of the disease, but merely as giving weakened vital function; peculiar conformations, of which the most important is that in which the animal has a shallow and usually flat chest, with long legs; irregularities in feeding, especially overfeeding; crowded and unventilated stabling; and lack of exercise.

Cleanliness is, of course, an item in the hygiene of cattle, and we are glad to see that the excessive production of milk is indicated as a source of danger. In these days, when the demands of the public, and, unfortunately, the theoretic views of some sanitary chemists, incline toward requiring very high grades of milk, the tendency is to manage cattle so as to secure these somewhat artificial results, and produce a milk of which it might be said, if the subject were not rather too momentous for levity, that it is rich but not respectable. Under the pretence of elevating the standard of dairy-cattle, more than one sanitary official has endeavored to secure by law such limitations in the composition of milk as will certainly tend to develop artificial conditions and liability to disease. Too much publicity cannot be given to Dr. Pearson's language: "The aim should not be to discover how much it is possible for a cow to produce, but to discover how much she can produce with a reasonable amount of exertion, and without detriment to her constitution." On the other hand, it is pointed out that a return to the conditions closely approximating the wild state will be too severe a change for a race that has been through many centuries subjected to artificial conditions.

After discussing concisely, but in sufficient detail, the conditions of infection, and the general symptoms of tuberculosis, Dr. Pearson explains fully the tuberculin-test as applied by him in this State. He employed the preparation made by Koch, as well as that made by the Bureau of Animal Industry in Washington, and by the Agricultural Experiment-Station at Newark, Delaware. No important difference was noted in the efficiency of these samples, but it is pointed out that no tuberculin should be used unless prepared by those known to be competent. "For purposes of injection the tuberculin is diluted with a 1 per cent. solution of carbolic acid in freshly boiled distilled water to a strength of 10 per cent. . . . The exact amount to be injected must depend somewhat upon the size of the animal, and also upon its physical condition. If the subject is emaciated and a probable victim of tuberculosis, the amount administered should be larger than that given to an apparently healthy animal." It is not necessary to go into the details of administration, thermometry, and complications, which are fully set forth; but it may be noted that up to the present time the injection can be utilized only for the detection of the disease, not for its localization. It is hoped that further observation will develop some method of ascertaining at least the comparative extent of the disease. A considerable

elevation of temperature after the injection, which, as is well known, is the important evidence of the existence of tuberculosis, may occur without the corresponding systemic manifestations observed in fever from other causes.

The report strongly favors the view that tuberculin is a very reliable agent for determining the presence of tuberculosis in cattle; that when properly prepared and judiciously handled it does not produce disease; and that it is the only known means whereby a positive diagnosis can be made in the early stages of the affection. So far from accepting the view that its employment will produce the disease in susceptible animals, it appears that some curative effects have been observed.

It is scarcely necessary to discuss further the question of the danger to the community from the unnoticed existence of tuberculosis in dairy-cattle. Indeed, statistical inquiries in some of the larger American cities seem to show that so general has become the information on this point that the use of milk as an article of food has been checked. The results in the Pennsylvania examinations confirm the view that a common mode of infection, especially in children, is through the employment of unsterilized milk from tuberculous cows, and an interesting case is noted by Dr. Pearson, which was reported at the Paris Academy of Medicine: "In a young ladies' boarding-school twelve girls presented symptoms of tuberculosis, and of these five died. Since all of these girls had healthy parents, and especially since all of them showed well-marked intestinal tuberculosis, the food was suspected. It was then found that the cow that had for years supplied the school with milk was tuberculous, and the autopsy showed that the viscera and the udder were badly affected." It is obvious that until a much more extensive examination of the dairies supplying our cities can be instituted there will be considerable liability to the distribution of tuberculosis in this manner. Official methods are not without disadvantage, and it is preferable that milk-producers and milk-purveyors should be brought to realize that they are responsible for the quality of the article which they furnish, and must institute careful, scientific inspection for themselves. The leaven of this unofficial supervision is already at work. We recorded some time ago the establishment under private auspices of regular and careful veterinary, bacteriologic, and chemic examinations of a certain dairy, and we are glad to learn that this system exists in various places. We are also pleased to note from a recent circular that a system of supplying Pasteurized milk, as distinct from sterilized milk, has been established. This milk is treated in a routine manner, so as not to be heated above 167° F., the operation being conducted in sealed cans. It is now recognized that milk sterilized by prolonged heating at the boiling-point of water is in many cases quite unsatisfactory as food for young children.

EDITORIAL COMMENTS.

The James E. Reeves Fund.—It gives us more than ordinary pleasure to announce the completion of the fund for the reimbursement of DR. JAMES E. REEVES, of Chattanooga, Tenn., for the expenditure to which he was subjected in his manly and victorious fight against quackery in the defence of the suit of Amick *vs.* Reeves. The following is the bill of expenses:

Attorneys' fees	$ 100 00
Trip to Cincinnati	30 00
Stenographic report	35 00
Printing pamphlet	60 00
	$ 225 00

The contributions to the fund were as follows:

Dr. A. Vander Veer,	$ 35 00	Dr. A. A. Eshner,	$ 1 00
William Wood & Co.,	25 00	Dr. G. R. Fowler,	1 00
Dr. F. Forchheimer,	15 00	Dr. H. M. Haskell,	1 00
Dr. N. P. Dandridge,	11 50	Dr. W. T. Hope,	1 00
Dr. P S. Connor,	10 00	Dr. Thomas Hubbard,	1 00
Dr. George M. Gould,	10 00	Dr. P. M. Jones,	1 00
Dr. William Osler,	10 00	Dr. G. W. H. Kemper,	1 00
Dr. J. F. Baldwin,	6 50	Dr. E. J. Kuh,	1 00
Dr. John A. Murphy,	6 50	Dr. H. A. McCallum,	1 00
Dr. A. B. Richardson,	6 50	Dr. G. L. Magruder,	1 00
Drs. Davis & Davis,	5 00	Dr. B. F. Miller,	1 00
Dr. John B. Hamilton,	5 00	Dr. D. E. Nelson,	1 00
Dr. J. H. Kellogg,	5 00	Dr. D. L. Page,	1 00
Dr. George Peck,	5 00	Dr. C. R. Pickering,	1 00
Dr. Edmond Souchon,	5 00	Dr. Miles F. Porter,	1 00
Dr. R. J. Trippe,	5 00	Dr. R. T. Reeves,	1 00
Dr. J. T. Whittaker,	5 00	Dr. J. Robinson,	1 00
Anonymous,	4 00	Dr. P. D. Sims,	1 00
Thomas G. Allen,	2 00	Dr. Fred. B. Stapp,	1 00
Dr. S. Solis-Cohen,	2 00	Dr. S. W. S. Toms,	1 00
Dr. George E. Jones,	2 00	Mr. Fred. Volz,	1 00
Dr. N. W. Leighton,	2 00	Dr. Voigt,	1 00
Drs. Spiller and Zurmtey,	2 00	Dr. B. S. Wert,	1 00
		Dr. J. P. West,	1 00
Dr. C. G. Comegys,	1 50	Dr. J. E Copeland,	50
Dr. G. W. Drake,	1 50	Dr. S. A. Davis,	50
Dr. G. M. Ellis,	1 50	Dr. E. J. Doering,	50
Dr. W. F. Taylor,	1 50	Dr. E. B. Doolittle,	50
Dr. E. C. Anderson,	1 00	Dr. J. E. Miller,	50
Dr. Theodore G. Davis,	1 00	Dr. A. Tait,	50
Anonymous,	1 00	Dr. H. B. Tanner,	50
Dr. A. Cornish,	1 00	Dr. M. Walker,	50
Dr. Robert W. Earle,	1 00		
Dr. John Elfers,	1 00		$ 225 00

This list includes 65 contributions from 41 cities representing 17 States, the District of Columbia, and the Dominion of Canada.

The medical profession is to be warmly congratulated

upon the outcome of this whole matter, and it is a source of especial gratification that DR. REEVES has been so substantially supported by such a considerable number of men. We have here an evidence that the American medical profession is sound at heart, though its body may harbor some destructive parasites. How great and decisive was the victory may be appreciated when it is stated that the Amick Company had set apart the sum of $30,000 as a prosecuting-fund with which to punish in the courts every man who dared denounce its nefarious practices. The success of the suit of Amick *vs.* Reeves would have emboldened all forms of quackery and spread universal intimidation. As matters stand, the whole army of quacks has been brought under the lash and put upon the run. Let us hope that the victory may strengthen the hands of the trustees of the *Journal of the American Medical Association* and of the publishers of all medical journals in the exclusion of unethical advertisements, so that our current literature may be freed from the contamination of quackery.

In conclusion, we cannot forbear quoting a paragraph from a letter written by DR. REEVES:

"Such an unexpected reward for the simple performance of one's duty swells my heart with inexpressible gratitude. Indeed, now that I am growing old, it is worth more of consolation to me than all else I have earned in my struggles for usefulness in our adorable profession."

The Utilization of Waste Products.—There is a singular similarity between the ethicolegal and the sanitary problems of the body politic. In both the disposal of waste is a prominent factor. In the one realm it is a question of the treatment of the criminal and the pauper; in the other that of the pathogenic germ and the saprophyte with his culture-media. The earliest methods of management are identical in both cases. The criminal is knocked on the head or banished to the next county, or compressed into certain city purlieus, according to the magnitude of his crime; while the garbage is hidden under the rushes on the floor, thrown out of the door, or dumped in the nearest hollow. "Out of sight, out of mind," seems to be the motto of this stage.

Very shortly, however, it is discovered, by most vivid and bitter experience, that both the criminal and the garbage have a sort of "boomerang" quality, and are likely to "come back at" the community aforesaid, even from Botany Bay and the extreme limits of the back yard. So a system of repression and "deterring" is entered upon. Penalties are made still more severe; branding and mutilation are practised to make the evil-doer a living object-lesson of the unprofitableness of crime; long terms of imprisonment are imposed and the ends of the earth ransacked for places of penal exile.

Sewage is at the same period run into the nearest stream, or buried in the ground, or evaporated and burned; in a word, gotten rid of at any cost. Finally, it appears to dawn upon both legislators and sanitarians that, after all, there may be some value to the community in even these remnants; some sense of decency in the criminal, the pauper, the foundling; some commercial value in the offal and sweepings of our city streets. The latter are now used to grow the city's vegetables and fertilize and irrigate her waste lands, while the former are either made to earn their own living in some prison-factory or are reformed into useful members of the community.

Especially is this true of that large body of street-arabs, destitute children, and waifs and strays of every description that swarm in the slums of our large cities. These are no longer permitted to grow up in idleness, ignorance, and crime, to become enemies of the commonweal, for it has been proved beyond doubt that the young of the human species, however unfavorable its parentage, displays a strong tendency to revert to the sturdy, healthy, animal virtues of its prehuman ancestors. If it be given favorable environment, though there will be many a failure, in the great majority of cases it will respond promptly and permanently.

One of the first to grasp this truth firmly and effectively was the renowned Dr. Charles Barnardo, whose fiftieth anniversary is now being celebrated in London. Thirty years ago, a young medical student at a hospital in the very heart of the notorious Whitechapel district, he gave up his professional and social prospects to devote himself to the rescue of "these little ones." And how he has succeeded all the world now knows. "From a little one-roomed refuge his work has grown into dozens of institutions for sick, destitute, and neglected children of both sexes, where they are carefully schooled and trained; and thousands of what were once starving and homeless waifs are to-day doing their duty in that state of life, on both sides of the Atlantic, in which Dr. Barnardo's unceasing efforts have succeeded in placing them—an army of young, skilled mechanics, artisans, and domestics, of which any country might justly be proud." Of all the sick and neglected waifs that have been sent to him from almost every part of the world, not one has ever been refused admission to his homes. He had practically no money of his own with which to carry on the work, but his noble enthusiasm was infectious, and contributions poured in on all sides and from all classes. Such a man, indeed, deserves well of his country, and we are glad to note that a fitting testimonial is to be presented to him on the celebration of his coming anniversary.

The gain to the community from his achievements has been simply incalculable, and the State owes him as heavy a debt of gratitude as do the waifs and outcasts he has befriended. Probable paupers, possible criminals, and certain burdens upon the country have been converted into not only honest and self-supporting, but actually productive members of the body politic. It is a pleasant thought that it was while training himself for the noble profession of medicine that the inspiration came to him. The "medical student" bears a hard name, but here is one striking demonstration of how little he deserves it, to say nothing of a thousand less illustrious ones.

Act of the Pennsylvania Legislature relating to Contagious Diseases.—The Philadelphia Board of Health has just issued for the information of the public copies of the act of Assembly approved by the Governor June 18, 1895, and entitled "To provide for the more effectual protection of the public health in the several municipalities of this Commonwealth." The act relates entirely to the management of contagious diseases, and seeks to emphasize previous legislation on the subject. The penalty for failure to notify the health-board of the ex-

istence of cholera, smallpox, diphtheria, membranous croup, scarlet fever, typhoid fever, typhus fever, yellow fever, cerebro-spinal fever, relapsing fever, leprosy, varioloid or diphtheric croup, consists in a fine of not less than five dollars nor exceeding one-hundred dollars, and in default of payment imprisonment for not more than sixty days. The previous penalty had been a "fine not exceeding fifty dollars."

According to the new act, children living in a house in which a person has suffered from diphtheria, smallpox, scarlet fever, cholera, varioloid, diphtheric croup, membranous croup, leprosy, typhus fever, yellow fever, or relapsing fever, or children or other persons who have suffered from one of the diseases named, are forbidden attendance at school (public, private, parochial, or Sunday) for a period of *thirty* days after the discharge of the person last afflicted, either by recovery or death, or his removal to a hospital, and the thorough disinfection of the premises. Heretofore the period of time varied from two weeks for diphtheria to three weeks for scarlet fever. The new act not only makes thirty days the limit, but further provides that a city may designate that only a certain person shall issue a certificate allowing a child to return to school. In Philadelphia the medical inspector alone can issue the necessary permission.

In Section 19 we find that the health-authorities of a municipality are "authorized and empowered to establish rules and regulations regarding the isolation of persons," disinfection of bedding, fumigation, etc., "as they may, in good faith, declare the public safety and health demand, which rules and regulations they may from time to time alter and amend, and such rules and regulations shall have the same force and effect as though embodied in this act."

This gives the board of health of a city almost absolute power, whereas formerly it could only pass resolutions or have ordinances made through city councils. Under the new law any rule, relating to contagious diseases at least, can be put into operation without waiting for councils, mayor, or legislature, and the penalty for violating such a rule or regulation is the same as that given in the case of failure to report a contagious disease; although before such a fine can be levied the person accused must be convicted of the offence before a magistrate. The health-authorities of Philadelphia are the Mayor, who is *ex-officio* a member of the Board of Health; the Director of Public Safety, who is also *ex-officio* a member of the board and its president; and five other persons appointed by the Mayor and confirmed by Select Council; who constitute the Board of Health proper. The health-officer, though receiving his commission from the Governor of the State, is subject to the rules and regulations of the Board of Health, and is apparently subordinate to this board.

Under this new act the health-authorities, to cite an extreme case, would have the power to order the destruction of a house if they considered it infected; they could enter sweat-shops and destroy the articles found therein whenever they deemed it necessary and without compensating the owners of such articles for their loss. The provisions of this act relate to all the municipalities of the State.

Nordau's Disease.—We are decidedly averse to giving "that eminent degenerate," Nordau, so much of what he is desirous of having—free advertising—as is implied by a second allusion to his work, but we wish to speak of one aspect that has been admirably suggested rather than clearly pointed out in a volume of short stories, entitled *The Salt of the Earth*. We are also glad to say that these stories are by a physician, Philip Lafargue (his real name is Dr. J. H. Philpot), of London. The fundamental criticism of Nordau and Nordauism is that no one, however subtle and powerful his intellect, can ever reach *la vraie vérité*, the truest truth, by the intellect alone, and especially if what emotional bias he has is that of contempt and indignation. It is by the aid of sympathy that the most perfect mental picturing, the most complete mental diagnosis, can be made. The attitude of scorn of the object studied is a poor one, and leads only to partial and imperfect results—just such results as Nordau has reached. Not only this, there is illustrated in his book the fundamental intellectual sin of most of modern literature—the use of intellectual power selfishly, not to present the uncolored truth, but to produce intellectual fireworks, to flash and dazzle, to attract attention to self. Already we hear that the learned author is under contract to write a novel and also a play. There yet remains the still more damaging point of criticism, the sorry fact that the author, who is a physician, not only does not study the disease, let us call it with peculiar appropriateness, *Nordau's disease*, scientifically, *i. e.*, without bias or coloring, without propossession, but it is most certain that from the beginning his results have been worked up to, and that violence has been done to his facts in order to make them prove his desired conclusion. The idea of calling Ruskin and Wagner and Rosetti degenerates! This is one of many instances in which critical vanity and pessimistic egotism peep about under the huge legs of genius to find themselves a dishonorable grave. Even Rossetti has written single stanzas worth more than the entire volume of his scorner. Finally, to cure not to curse, to sympathize not to anathematize, is the ideal of the true physician. This, *Doctor* Nordau has not chosen to do; but this Dr. Philpot has chosen, and we write to commend the book that is not the product of a brain cynical and pseudo-scientific, and that therefore needs all the more to have its merits praised.

The Management of Infants during the Heated Term.—The Board of Health of Philadelphia has published for distribution a pamphlet giving special rules for the management of infants during the hot season, based upon recommendations made by the Philadelphia Obstetrical Society a number of years ago. These rules are very simple, and should be familiar to every mother, yet many do not possess even a tithe of this knowledge. Rule 8 directs that "if the cow's milk is not known to be pure no water should be added." It would have been better to insist upon the use of pure milk, and to have secured such assurance by having samples of the milk tested free of charge under the supervision of the health-authorities. While the term "sterilization" is not specifically used, the directions to "scald the milk as soon as it comes and to put away in the coolest part of the house—on ice if it can be afforded"—are probably as plain as can be given in a statement intended for universal comprehension. It might not have been out of place to state in a few terse sentences in what ways milk is usu-

ally contaminated, in order that these several sources might be avoided. The reference to condensed milk made in Rule 9 is in disregard of recent investigations upon this subject; it would have been better to recommend instead some other modification of cow's milk.

There is a need for informing the public through some official source how to put into practice recognized sanitary principles, and the Philadelphia Board of Health is to be commended for its efforts in this direction.

In the absence of medical men from boards of health, it would, perhaps, be well for such boards to invite from time to time suggestions from representative medical bodies as to the means to be adopted by the community to prevent disease, and such recommendations should be couched in simple and unambiguous language, and printed for general distribution. The Philadelphia Board fortunately includes two medical men, one of whom is its president.

Traffic in Misery and Folly.—There are many great advertising dispensaries and cure-alls. None is more business-like than the one to which we wish to refer. This concern advertises in a systematic and orderly manner in the secular and daily press of the country. It has a large corps of letter-writers and correspondence-clerks. In its safes it has preserved the letters and confessions of almost a million miserable and foolish men and women. This correspondence is tabulated and is followed by a record of the treatment, and, what is of more moment, of the contract and the moneys paid on it.

Not long ago a like concern failed in a city 800 miles distant. Among the most valuable assets of the defunct concern were similar records of 200,000 dupes. These the first great business-house referred to bought of a speculator, agreeing to pay fifty cents apiece for each new name of a living person. In checking up the lists, 60,000 of the 200,000 were found to be on their books already.

Perhaps all readers of the newspapers have noticed an advertisement for a lock of hair, upon the receipt of which the advertiser agrees to tell the sender's fortune and cure his disease. The author of this "fake" lately retired from business, and his correspondence, including over 600,000 locks of human hair from as many heads, was sold to an advertising concern.

These are simply samples of business principles applied to medicine.

Surgical Shock as a Cause of Death in Women.—Among the causes of death mentioned in the report of the Registration Department of the Philadelphia Health Office for 1894, "surgical shock" is credited with seventy-five deaths; of which number twenty-one occurred among males and fifty-four among females. Examining the reports of previous years we find:

In 1890 surgical shock caused the death of 6 males and 12 females; 1891, 9 males, 21 females; 1892, 8 males, 43 females; 1893, 19 males, 43 females.

Whether women are more frequently operated upon than men or whether the operations they undergo are more liable to result in shock, or whether women because they are women are predisposed to shock, are questions that naturally suggest themselves after glancing at the statistics cited. Perhaps the gynecologist can throw some light on the subject. But whatever the explanation, it is desirable that the return of death should mention the kind of operation from which the shock resulted, and that the term "surgical shock" as a cause of death be relegated to the limbo of insufficient medical terms, as "heart-failure" and "apnea" have been.

SELECTION.

SUICIDE.

PROFESSOR SIKORSKI, of the University of Kief, writing in the *Kievlianin* upon the psychology of the Russian people, brings forward some interesting statistics concerning the frequency of suicide in the different nations of Europe. According to these figures, the death-rate from suicide per million living is in Saxony 311, in France 210, in Prussia 133, in Austria 130, in Bavaria 90, in England 66, while in Russia it is as low as 30. Further, it is found that during the last thirty years the suicide-rate has in Russia remained stationary, while in all other European countries it has increased by 30 or 40 per cent. The exact significance of figures such as these, relating to so complex a phenomenon as suicide, is not easily brought out. Few, however, will be disposed to question the assertion that much of the explanation of the low rate in Russia is to be found in the patience and long suffering of the Russian peasant under even the worst misfortunes. Among other characteristics Professor Sikorski also finds a certain indecision of character which fears to say a word or do an action which shall not admit of retreat or withdrawal. Crime is comparatively rare in Russia; thus, the number of persons tried for murder per million living in the year 1887 was in Italy 96, in Spain 55, in Austria 22, in France 14, in Russia 10, in Germany 9, and in England only 6.—*The Lancet*.

REVIEWS.

THE ELEMENTS OF PATHOLOGICAL HISTOLOGY, WITH SPECIAL REFERENCE TO PRACTICAL METHODS. By DR. ANTON WEICHSELBAUM, Professor of Pathological Anatomy and Director of the Institute of Pathological Anatomy in the University of Vienna. Translated by W. R. DAWSON, M.D. (Dublin), Demonstrator of Pathological Anatomy in the Royal College of Surgeons, Ireland, etc. 8vo, pp. xv, 456. London and New York: Longmans, Green & Co., 1895.

THOSE unfamiliar with German are to be congratulated on being provided with such an admirable translation of Professor Weichselbaum's *Grundriss der Pathologischen Anatomie*. Few and unimportant changes have been made in the original, though some additions have been incorporated in the present work. Professor Weichselbaum is deservedly recognized as one of the foremost pathologic anatomists of the world, and this product of his labors must be viewed as an authoritative expression of opinion upon the subjects with which it has to deal. An industrious worker, a careful observer, a wide reader, a progressive and original investigator, a thorough student and capable teacher, a fluent and

easy writer, we have combined the elements essential for successful authorship. This work has been prepared principally for the beginner and the student, and deals in a measure both with the theoretic and the practical aspects of pathologic anatomy.

The translation has been arranged into three parts: the first dealing with general methods of investigation, the second with general pathologic histology, and the third with special pathologic histology. Part I includes a consideration of both histologic and bacteriologic methods of investigation. Part II retrograde changes in tissue; progressive tissue-changes; inflammation; infective granulation-tissue tumors; tumors or new-formations; the parasites, animal and vegetal, macroscopic and microscopic. Part III deals successively with the blood, the circulatory apparatus, the spleen, the lymphatic and thyroid glands, the suprarenal capsules, the digestive apparatus, the liver, the bile-ducts, the pancreas, the respiratory apparatus, the urinary apparatus, the generative apparatus, the nervous system, the organs of locomotion, the skin, the eye, and the ear. An index of fourteen pages facilitates reference. The work is in all respects a most admirable one and deserving of the warmest praise, the translation not less so than the original. The toned paper is heavy and of excellent quality, the type is large and clear and well arranged, and the illustrations, of which there are more than two-hundred, together with eight plates, drawn principally from original preparations, are artistic and accurate. Altogether, the work deserves a cordial reception, and should prove of the utmost service, not only to those for whom it was principally written, but also for the great body of practical physicians interested in the scientific status of their profession.

TRANSACTIONS OF THE VERMONT STATE MEDICAL SOCIETY FOR THE YEAR 1894. Published by the Society.

THE Vermont State Medical Society enters on its eighty-second year of existence with a membership of 175. This volume of its *Transactions* contains thirteen papers read at the annual meeting of 1894. The address by the President, Dr. A. B. Bisbee, is in the form of a paper on the "Conditions Which Favor Tuberculous Infection," and contains statistics gathered from life-insurance material. Dr. J. B. Brewster reports an epidemic of typhoid fever in the town of Windsor, which affected 10 per cent. of the inhabitants (130 cases). The source of contagion was traced to the water-supply, which the "village voted to discontinue," and it now has pure water. Dr. Caverly gives an account of an epidemic of acute anterior poliomyelitis which was confined to the Otter Creek Valley. The majority of children affected were under six years of age; 126 cases are analyzed. F. A. Rich, V. S., M.D., in a paper on "Tuberculosis in the Lower Animals," gives the results of tuberculin-tests in Vermont cattle and in the cattle of other States.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONERS' INDEX. A Work of Reference for Medical Practitioners. New York: E. B. Treat, 1895.

THIS work, which is in the thirteenth year of publication, is an annual review of the progress of medicine, with special reference to the treatment of disease, condensed in this instance to fill one volume of 648 pages, and edited by thirty-seven British and American medical men, who also contribute a few original articles. Part I is called "A Dictionary of New Remedies," Part II "A Dictionary of New Treatment in Medicine and Surgery," and Part III consists of a review of sanitary science, a review of pharmacy, and contains a small list of new inventions, and a very superficial list of "the principal medical works" published during the year 1894. In order to show "his consideration for all schools" the publisher includes in the list of books a half-dozen or more homeopathic treatises and pamphlets.

Twenty-four full-page plate illustrations accompany the text, although seven of these serve to illustrate an article on eyesight and school-life and are evidently introduced simply to render the work attractive. There is much, however, in the book to recommend it to those who desire a partial index of the medical literature of the year.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA. 1895. Pp. 441. San Francisco: W. A. Woodman & Co.

THIS volume contains forty papers and committee-reports on special subjects. The articles on Medical Education, the Opium-traffic, and Quackery in Genito-urinary Diseases contain some interesting features. An extravagant paper by C. G. Kuhlman, entitled "The Status Præsens of Inherited Tuberculosis," undertakes to point out the exact nature of the laws required to limit if not to eradicate "tuberculosis, which in the author's opinion is in nowise "contagious, infectious, or dangerous to the public health." The Board of Examiners report 305 applications acted upon, of which 9 were refused. The Society contains 340 active members, and this present volume is the twenty-fifth of its *Transactions*.

THE RETROSPECT OF MEDICINE. By JAMES BRAITHWAITE, M.D., London. Volume cxi. July, 1895. American edition. New York: G. P. Putnam's Sons.

THIS half-yearly compend of medical progress contains a synopsis of a considerable number of articles in the various branches of medical science that have appeared in the medical journals in the last six months. A publication that is in its fifty-fifth year must be of some use to the medical profession. A condensed summary every six months of what the medical world is doing ought to keep the busiest practitioner well informed, and Braithwaite's retrospect serves such a purpose.

CORRESPONDENCE.

OTO-MASSAGE.

To the Editor of THE MEDICAL NEWS,

SIR: While hesitating to differ with so eminent an otologist as Dr. C. H. Burnett, I cannot refrain from calling attention to some points that he has overlooked in making sweeping assertions in regard to oto-massage in your issue of August 10, 1895. He speaks of direct pressure on the membrana tympani bruising and wounding that structure. This reminds me of inquiries as to

whether I had ever ruptured the membrana tympani in practising pneumatic massage, or had hemorrhage or syncope follow. Now these results and "bruising and wounding" the drum-membrane can only follow that which might be more properly classed as orthopedic surgery than as pneumatic massage. I have seen a mutilated drum-membrane as the result of rough usage of the Delstanche, but never from properly applied pneumatic massage.

Another thing: Dr. Burnett condemns all forms of "direct pressure" on the membrana tympani, and doubtless no condemnation can be too severe for the brutal stabbing at this delicate structure with probes or solid bodies of any kind. But a properly constructed pneumatic masseur, of which there are several, never produces any pressure on the drum-membrane. Such an instrument will first exhaust and then release the air confined in the external auditory meatus—never compress it. Furthermore, the action is never sufficient to do the slightest injury, never more than enough to give a slight, but perceptible, motion to the membrana tympani if observed through a Siegle speculum. Sittings should never be longer than thirty seconds nor oftener than thrice weekly. Used in this way no harm can result, and I can exhibit a number of cases in which benefit to tinnitus and hearing-distance is unmistakable in extent and permanency.

A man who has no more respect for a beautiful and delicate structure like the human ear than to go stirring around in the auditory canal with a probe and treating a middle-ear sclerosis as an orthopedic surgeon would a fibrous ankylosis of the knee-joint will doubtless never get good results from pneumo-massage.

This matter of pneumatic massage reminds me of those obstetricians who used to blame ergot for lacerating the cervix and perineum, yet they could never be induced to give less ergot than two drams of the fluid extract; often more. If they had tried less heroic therapeutics, the results would have been better and no harm would have been done.

The great trouble has been that oto-massage was widely heralded as a wonderful and infallible remedy for every case of deafness. When this occurs with a remedy but one result can follow: Up like a rocket and down like the stick. Instead of selecting the cases to which the remedy is adapted it is applied to all cases that come along. Any good the remedy may do is altogether lost sight of because too much is expected and required of it, and it is put to a test that no remedy will stand. Certainly Politzerization will not stand the tests to which any new remedy is put. If any otologist gets *permanent* substantial benefit from the Politzer in 40 per cent. of all his sclerotic middle-ear cases, he is more fortunate than I have been. Excision of the membrana tympani, and of two or all of the ossicles, does not yield a higher percentage of benefit. Then why look for pneumatic massage or any other new procedure to perform miracles? The air-douche of Politzer has its sphere of usefulness, but no one looks for it to benefit all cases, nor half of them.

Yours truly,

CHEVALIER JACKSON.

PITTSBURG, PA.

APOMORPHIN IN THE TREATMENT OF OPIUM-POISONING.

To the Editor of THE MEDICAL NEWS,

SIR: As I frequently see in reports of cases of opium-poisoning that apomorphin is still used for its emetic effect in such cases, I feel called upon to utter a word in protest against what I believe to be a very dangerous as well as useless practice. My experience with it is limited to one case.

The patient, a woman, had taken a large quantity of morphin and was so profoundly narcotized when I saw her that respiration had to be stimulated and later sustained altogether artificially. Sending a messenger hurriedly for a stomach-tube, battery, and other necessaries, and an hour later another messenger after the first (neither of whom returned), I finally grew desperate and gave the patient gr. ⅙ of apomorphin hypodermically. The heart's action, which had been fairly good up to this time, quickly thinned away, and in fifteen minutes the patient was dead.

Up to the time of seeing this case I had given the subject very little thought and merely had a vague fear of the depressing action of apomorphin on the heart. Its action here, however, together with some experience in its use as an emetic in cases of alcoholic intoxication, has convinced me of both its inutility as an emetic and its dangerous, nay, its almost necessarily fatal, effect as a heart-depressant in subjects already narcotized by opium or alcohol.

In the first place, emesis is essentially a muscular act and cannot possibly occur without vigorous contractions of the muscular coat of the stomach, together with fixation of the diaphragm and abdominal muscles—conditions impossible to effect in that state of extreme muscular relaxation which accompanies narcosis from opium or alcohol.

In the second place, the effect of apomorphin as a heart-depressant is most profound and unmistakable.

One-sixth of a grain given to a strong, muscular man suffering from acute maniacal alcoholic intoxication ("fighting drunk"), with the attending muscular activity and high arterial tension, will in ten minutes so prostrate him that he will be too weak to raise his head, and the excited heart will have so changed that the pulse can hardly be felt. A drug that will so quickly produce such extreme exhaustion must, it seems to me, be almost necessarily fatal if used in cases of opium-narcosis, in which the heart's action is already depressed to the danger-point.

Respectfully,

GEORGE S. BROWN.

BIRMINGHAM, ALA.

A DEFINITION OF NIGHT-TIME.

To the Editor of THE MEDICAL NEWS,

SIR: Allow me to call your attention to Chapter 85, as enacted by the Legislature of Wisconsin and approved March 23, 1895, as it may be of importance in county bills, poor bills, etc. If it can be made effective in regular practice, it will be a veritable boon for physicians whose work in the winter often accumulates toward evening.

Yours respectfully,

M. IVERSEN.

STOUGHTON, WIS.

No. 86 S. Published March 27, 1895.

CHAPTER 85.

AN ACT to define the time "night-time" when used in any statute, ordinance, indictment, or information.

The people of the State of Wisconsin, represented in Senate and Assembly, do enact as follows:

Section 1. The time "night-time" when used in any statute, ordinance, indictment, or information in this State shall be deemed to be the time between one hour after the sunsetting on one day and one hour before sunrising on the next day; and in all cases the time of sunsetting and sunrising shall be ascertained according to mean time in the place where the term may be used, as given in any published almanac.

Section 2. This act shall be in full force and effect from and after its passage and publication.

Approved March 23, 1895.

VITAL STATISTICS.

To the Editor of THE MEDICAL NEWS,

SIR: I note an editorial reference in THE MEDICAL NEWS of August 17, 1895, p. 180, to the death-rate of Denver and to the probability of the population being overestimated. I wish to explain that in estimating the increase of population of the city I have added each year a number equivalent to the annual increase during the ten years elapsing from 1880 to 1890; this made our estimated population at the end of the year 1894 about 135,000. At that time there were added to the city by annexation the towns of North Denver, South Denver, and Harman, together with adjacent and intervening suburban districts, containing altogether about 10,000 persons. This seems to me to justify the estimated population of 145,000, upon which our statistics are at present based. An analysis of the figures given in our monthly reports will show that the percentage of deaths from the causes usually held to be preventable is quite low; this, together with the large percentage of adults composing our population, satisfactorily explains the low death-rate of Denver.

Very respectfully,

WILLIAM P. MUNN,
Health Commissioner.

DENVER, COL.

NEWS ITEMS.

The Number of Medical Students at the German Universities.—The whole number of medical students in the universities of Germany during the summer semester of 1895 was 8030, of whom 1209 were at Munich, 1080 at Berlin, 707 at Würzburg, 617 at Leipzig, 443 at Freiburg, 406 at Greifswald, 399 at Kiel, 338 at Breslau, 300 at Strassburg, 275 at Heidelberg, 246 at Königsberg, 245 at Marburg, 241 at Halle, 220 at Göttingen, 215 at Tübingen, 195 at Jena, 137 at Giessen, and 101 at Rostock. Thus Munich stands first numerically, and this superiority is due to its greater attractiveness for non-Bavarians, of whom there were 792, whereas at Berlin there were only 298 non-Prussians. During the winter semester of 1893–94 in German universities, 1406 students received, on examination, the degree of M.D., of whom 100 were pronounced "sehr gut" (very good), 928 "gut" (good), and 378 "genügend" (sufficing). Of the first class there were at Leipzig 14, and of the second class 146 out of 201; at Munich, 12 and 111 out of 166; at Würzburg, 11 and 96 out of 135; while at Berlin there were none of the first class, and 111 of the second out of the entire number, 169. These statistics would imply that the examination for a medical degree is more rigorous at Berlin than at the other German universities—assuming, of course, equal competence and diligence on the part of the students.—*Corresp. N. Y. Evening Post.*

Malarial Hematuria.—A committee of the Tri-state Medical Society of Arkansas, Mississippi, and Tennessee, consisting of Drs. William Krauss, G. B. Malone, and G. G. Buford, of Memphis, Tenn., and Dr. R. W. Barton, of Marion, Ark., desires to make a complete report on the subject of malarial hematuria at the meeting of the society in Memphis, in November next, and requests information upon the following points: 1. Number of case. 2. Age, color, sex, etc. 3. Previous history. 4. Sanitary surroundings. 5. Kind of drinking-water. 6. Season of year. 7. Is malaria abundant at the time, and in what form? 8. Is malarial hematuria abundant at the time? 9. What type of malaria, if any, preceded the attack? 10. Had patient taken quinin, and how much? 11. Symptoms, character of urine, etc. 12. Therapy. 13. Was blood examined? 14. Termination. 15. Post-mortem appearance. 16. Is it patient's first attack?

Dr. G. W. H. Kemper, of Muncie, Ind., celebrated on August 19, 1895, the thirtieth anniversary of his entrance on the practice of medicine. At a reception held by Dr. Kemper numerous toasts were made and appropriately responded to; and the doctor was made the recipient of a gold-headed cane presented by his medical friends. Dr. Kemper was born in Rush County, Ind., in 1839, and was graduated in medicine from the Long Island College Hospital in 1865. He rendered active service in the War of the Rebellion, and he has held numerous public and professional positions of distinction.

Major Thure Brandt, a Swedish officer and the originator of pelvic massage as a gynecic therapeutic measure, died recently at the age of seventy years.

Correction.—On fourth line from top, second column, page 243, of THE MEDICAL NEWS, August 31st, "1 per cent." should read "2 per cent."

BOOKS AND PAMPHLETS RECEIVED.

Circumcision. Short Review of the Origin and History of this Custom. By Edwin L. Morgan, M.D. Reprinted from the Virginia Medical Monthly, 1895.

Case of Idiosyncrasy to Ipecac, with Remarks. By Edwin L. Morgan, M.D. Reprinted from the Virginia Medical Monthly.

Some Observations Concerning a New Test for the Detection and Quantitative Estimation of Free Hydrochloric Acid in the Gastric Juice. By Julius Friedenwald, M.D. Reprinted from the Medical Record, 1895.

The Influence of Pregnancy upon Dental Caries. By Reuben Peterson, M.D. Reprinted from the Dental Cosmos, 1895.

Thirty-fourth Annual Report of the Cincinnati Hospital, to the Mayor of Cincinnati, for the Fiscal Year Ending December 31, 1894.

Affections des Membres. Statistique et Observations par le Dr. Polaillon. Paris: Libraire Octave Doin, 1895.